November 14, 1931 Textile World Vol. LXXX, No. 20

Published every Saturday by Bragdon, Lord & Nagle Company,
Division of McGraw-Hill Publishing Company, Inc., New York

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Textile Prospects for Winter Improve

AS WE approach the end of the year, evidence of a healthy textile situation is accumulating.

Last month witnessed the greatest increase in cotton goods orders on hand recorded in any single month since statistics became available. For the first 10 months of the year, sales of cotton goods were 7% in excess of production, and shipments were 5% in excess. Here is a significant fact: On Jan. 1, this year, stocks on hand were 26% greater than unfilled orders; on Oct. 31, unfilled orders were 19% greater than stocks.

Nor is the improvement limited to cotton. Wool consumption during the first nine months of this year exceeded that for the same period last year by 25%. Despite a trying raw silk situation, consumption of that fiber for the first three quarters of 1931 was nearly 8% in excess of the same period last year. Definite figures on rayon are not yet available, but the increased use of synthetic fibers this year has been spectacular.

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The public significance of these facts is important. Not only have textile mill workers enjoyed a higher rate of employment thus far this year but it seems probable that the coming winter will entail no serious hardship for them as a class. In fact, the Association of Cotton Textile Merchants of New York, in its October report, departed from purely statistical statement to observe that the record-breaking increase in unfilled orders "carries a reasonable assurance that the employees of the cotton textile industry will, in the main, be kept fairly busy during the coming winter."

Part of the increased activity is due to present bargain levels of textile raw materials. A much larger part is due to the absolute necessity for replacement of wardrobes.

Up to very recently, we have feared that the spurt in textiles would subside, owing to lack of support from similar improvement in general business. Developments of the last few weeks, however, have changed the picture. In fact, trade reports over the last week-end reflected an entirely different tone throughout the country. Business is not threatening to boom, but it is promising to expand in a healthy, though gradual, manner.

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Consequently, the textile industry and its workers can look forward to what should approximate a normally busy winter.

They can do more than this. If manufacturers will study the statistical reports, briefly analyzed above, they will realize that no one is asking them to give their goods away. The country needs clothing; it can get cheap clothing on the basis of today's raw material and labor costs, plus a fair profit. Any tendency to yield that profit reflects either ignorance of costs, or cowardice.

And the best way to insure steady employment of the workers, is to insure financially successful operation of the companies themselves.

The Week in Textiles

as Reflected in This Issue

General

Research, a Stabilizer

Dr. C. H. Herty in his address last week before the United States Institute for Textile Research described research in the role of a stabilizer for industry. More extensive quotation of his address is given than appeared last week. *(page 31)*

Shock Absorber for Gages

The reading of pressure gages on pipe lines carrying liquids or gases having a pulsating flow is facilitated by the development of a shock-absorbing device which prevents the transmission of irregular flow to the gage. *(page 49)*

Unit Ventilator

Announcement is made of the introduction of a new ventilating unit designed to admit 50% outdoor air and recirculate 50% of the room air. Provision is made for temperature control. *(page 49)*

Cotton

Unfilled Orders Increase

A large gain in unfilled orders at end of month features the cotton goods statistics for October. The position is greatly improved but needs pushing if advantage is to be maintained. *(page 49)*

Slasher Gears

The percentage of warp stretch during the process of slashing has been greatly reduced by the introduction of a pawl and ratchet drive on the cylinder. *(page 48)*

Use of Super Doup

Leno fabrics can be made on one set of doups by using the super doup. Detailed explanation of how this is accomplished is supplied. *(page 51)*

Cotton Holds Steady

The cotton market has held remarkably steady in view of the government crop report which shows an expected crop of 16,903,000 bales, an increase of 600,000 since previous report. General gain in commodity prices helped to draw interest to cotton. *(page 57)*

Yarns Are Firmer

Cotton yarn spinners have made a strong endeavor to get higher prices and the low figures of last week were no longer possible. Buyers, however, are not impressed and business remains scattered and difficult to close. *(page 57)*

Cottons Are Dragging

The goods market has lacked the support which might have been expected in view of the stability of the raw material. Cotton is more than 1c. per pound above bottom while gray goods prices are still about at their low records with some new lows reported this week. *(page 61)*

Wool

"All Wool—and Nation Wide"!

National Wool Week has lived right up to its slogan, and results have been especially satisfactory at the retail end. Stores from coast to coast have exploited the event in all modern methods of promotion. Dinner in New York, Philadelphia pageant and Boston radio program were highlight features of opening. *(page 24)*

Age of Worsted Spindles

Another installment of the Wharton School's worsted spindle inventory deals with the age of equipment and the number of spindles per frame or mule. The figures show that the majority of the spindles now set up were bought before the war and that little replacement has been done in recent years. *(page 26)*

Weave and Color Effects

The common twill, always known as a basic weave, is capable of practically unlimited variation by means of which very attractive color and weave effects may be obtained. It is expected that this article will be of particular value to the young designer. *(page 32)*

Blanket Labeling

A meeting will be held on Nov. 20 in New York to consider standardization of labeling practice on wool and part-wool blankets. *(page 40)*

Wool in the Balance

Confidence in domestic wool values has been increased, says Dr. L. H. Haney in this week's TEXTILE WORLD Analyst, by the stronger tone in foreign wool centers and increased manufacturing activity in England. Further declines in mill consumption in this country, he warns, will tend to cause easier raw wool prices. *(page 53)*

The Textile Outlook

THE business orchestra is decidedly out of practice. When the cornets and horns of the grain, silver and security markets are playing a tune suggestive of return of prosperity, the violins and cellos of the textile markets are moving indifferently along several bars behind. Perhaps this is only a rehearsal anyhow and we'll not know what the full orchestra sounds like until a few more readjustments are made and the overzealous players given just as much coaching as the weak and hesitant ones. The mixed situation is shown in the following facts: The government adds 600,000 bales to its cotton crop estimate and cotton advances; while cotton has been rising, goods stay at bottom; while Wool Week is encouraging sale of wool goods, raw wool which held firm in trying period of last two months shows weak spots; just as silk goods get fairly stabilized, chance of a war comes along which might readily mean wide fluctuation. But labor is going to work again in New England on reduced wage scale and serious labor agitation is probably out of the picture for a few months. Psychologically the turn has probably come and it is hoped that the textile industry will do its share to materialize the improvement.

Raw Wool Unsteady

Raw wool shows signs of weakening after resisting pressure by buyers for many weeks. Buyers have been picking up scattered lots, but still show general disinterest in the market. *(page 59)*

Yarns Irregular

The worsted yarn market is irregular with users not yet in a mood to do general business. They are awaiting more business in their own products before committing themselves on yarns so price alone will not sell spinners output. *(page 59)*

Fabric Mills Encouraged

Wool Week stimulated even the most lethargic of wool goods mills this week and market tone has strengthened considerably. Women's wear fabrics enjoy better call. *(page 61)*

Paterson "Silk Week" Starts

THE much-heralded "Silk Industry Week" opens in Paterson, N. J., today (Nov. 14) with two major events. The Silk Institute convenes at the Alexander Hamilton Hotel, Paterson, at 10 a.m., continuing through a full program of addresses and luncheon sessions, well into the afternoon. The Silk Machinery Exposition, which is the highlight of "Silk Industry Week," throws open its doors at the Paterson Armory, at 7 p.m., this (Saturday) evening. The machinery show will remain open daily, from 1 p.m. to 10.30 p.m., until next Saturday when the "Week" comes to a close. Numerous special events, including a Martha Washington Fashion Show, will entertain visitors daily at the exposition.

Outstanding on next week's program at Paterson is the National Silk Convention, to be held at the Alexander Hamilton Hotel, Wednesday and Thursday, Nov. 18 and 19; and the dinner-meeting of the Silk Travelers' Association, which will be held at the same hotel Wednesday evening. Details of all these events were given in TEXTILE WORLD for Nov. 7.

Paterson can be reached from New York by train, bus, or private motor. Buses leave the Astor Hotel and Herald Square terminals every 20 minutes during rush hours; first bus at 7:45 a.m., last one leaving Paterson at midnight. Buses pass within one block of the armory where Machinery Show is being held.

Knitting

Gore Holes

Worn stitch cams are determined as the source of gore holes in circular-knitted stockings. It is recommended that these cams, when replaced, should be ground slightly concave near the point. *(page 50)*

Hosiery Sales Increasing

Approach of Christmas has brought an increase in full-fashioned hosiery demand, but volume is still backward and congested last-minute buying seems likely. *(page 62)*

Weather Handicaps Underwear

Although ribbed underwear is active, mild weather has slowed retail sales and made buyers hesitant about placing spring business on lightweights. *(page 62)*

Swimsuits Backward

Total swimsuit business to date is well behind last year. Mills hope for pick-up at end of month. Prices have steadied. *(page 62)*

Silk

Proposed Classification Standards

It is pointed out that recent efforts in regard to classification of raw silk unfortunately still leave much to be desired. The author offers his criticism in a constructive tone and makes several pertinent suggestions for improvement of the standards in question. Comparative tabulation of results obtained by the use of different methods of classification is of particular interest. *(page 36)*

Silk Rallies After Decline

Raw silk is 5c. above last week, the rise following a series of fluctuations so sharp that some importers temporarily refused to quote. Good tone. *(page 59)*

Thrown Yarns Advance

Thrown yarn reflected primary market strength in a mild rise, but there was little buying interest. Increased inquiries for spun yarn. *(page 59)*

Spring Fabrics Improve

Cutters-up began placing orders for spring broadsilks this week and while volume is small, market tone is considerably better. Active spot call for mark-downs. *(page 61)*

Rayon

Furness Starts Production

Interest in cuprammonium yarn is quickened by announcement that Furness Co., Gloucester, N. J., has started commercial production by improved process. Savings in costs are effected by utilization of spinning equipment which converts dissolved cellulose into a finished yarn continuously in less than three minutes. *(page 28)*

Rayon Plants Curtail

Determined to avoid year-end surplus, rayon producers continue their curtailment policy. Output fell from 80% to 75% of capacity this week, reflecting moderate buying. Market tone firm. *(page 59)*

The Business Outlook

AMID the nervous swings of speculative sentiment in commodity and security markets evidences of actual increase in industrial and trade activity so far in November are still slight, scattered and of uncertain significance. Despite undeniable improvement in underlying elements and more optimistic business attitudes, it is unreasonable to expect much immediate evidence of upturn at this season of the year. Resistance to seasonal decline of steel production, fairly well sustained strength in residential building and carloadings, an October upturn in department store sales, scattered increases in employment, and some recession in currency circulation after allowance for seasonal and price factors, are all encouraging indications, offset by persistent weakness in electric power output and check payments and continued bank credit liquidation. Our index for the first week of November is stationary at the low level for the year. Commodity prices have relaxed the swift pace of their recent rise, and there are obstacles still to be overcome before the bear market can be definitely declared dead and the sacred, badly scared bull safely issue from his long seclusion for the next festival.—*The Business Week.*

Processing

Streaks in Carbonized Fabric

There are several possible reasons for the development of streaks or clouds in piece-dyed, carbonized goods. These causes together with their remedies are briefly outlined. *(page 50)*

Chemists' Program

The program for the annual meeting of the American Association of Textile Chemists and Colorists at Boston indicates wide coverage of current technical problems. *(page 65)*

Joel Feder

Unusual use for wool fabric in formal evening wrap (left) and travel pajamas of soft wool goods (right) shown at New York Wool Dinner

Fine Retail Response Heralds Success for National Wool Week

EASILY the outstanding feature of National Wool Week, which reaches its technical close today (Nov. 14), but which promises to spread its stimulus through the entire season, has been the splendid response it has elicited from leading retailers throughout the country. It is too early to estimate the value of the event, in concrete terms of sales, but already reports being received at the offices of National Wool Week Committee in New York, show a more than seasonal improvement in consumer demand.

National Wool Week was formally opened last Saturday, with demonstrations of various kinds in many cities. Chief among these events were the parade in Philadelphia, the official opening dinner of the National Wool Week Committee at the Waldorf-Astoria Hotel, New York, and a special radio program in Boston which included talks by New England textile leaders.

The New York Wool Dinner

The dinner in New York was successful from many aspects. It drew together a representative cross-section of the wool industry, including wool growers, spinners, weavers, garment manufacturers, and retail distributors. It included a smart fashion show, demonstrating the style importance of wool goods in the current modes. The speeches by representatives of various divisions of industry and public affairs touched on the foremost problems of the industry. The speakers were: Arthur M. Hyde, Secretary of Agriculture, James C. Stone, Chairman of the Federal Farm Board, Edith Nourse Rogers, Representative from Massachusetts, Lord Barnby, of Francis Willey & Co., London, Mayor Walker, of New York, and Leo A. Del Monte, president, Industrial Council of Cloak and Suit Manufacturers, Inc., New York.

Secretary Hyde said that market stability was the paramount need of the textile industry, and he deplored the small financial return that the wool grower gets for his product, as compared to that given other divisions. He stressed the danger of low prices as tending to lower the standard of living.

"The main value of Wool Week," the speaker added, "is that it shows the tendency toward recognizing the interdependence of the different groups that make up the wool industry. All elements can work together and when they do so they will build up their industry."

Mr. Stone explained the services extended to the wool industry by the Federal Farm Board. He, too, emphasized the need of "giving more consideration to the needs of the raw market," and he said that "a more understanding attitude of industry as a whole on this point would tend to produce a healthier condition in the country." Representative Rogers urged the wool industry to make more use of the federal organizations, particularly the Bureau of Standards, commenting that the cotton industry was much more active generally in Washington than the wool trade.

Particular interest was aroused by Lord Barnby's address, which constituted a swift but comprehensive survey of the world wool situation. He enthusiastically endorsed the Wool Week idea, and advocated further use of publicity in the industry. Tracing developments in the American wool industry since 1926, he said these "five years of adversity have helped you to greater efficiency," especially as regards manipulation costs.

Lord Barnby told of the work being done by the Wool Industries Research Bureau, leading British textile trade association, of which he is chairman. He said he had worked through the association to stimulate interest among wool-raising countries of the Empire, in raising

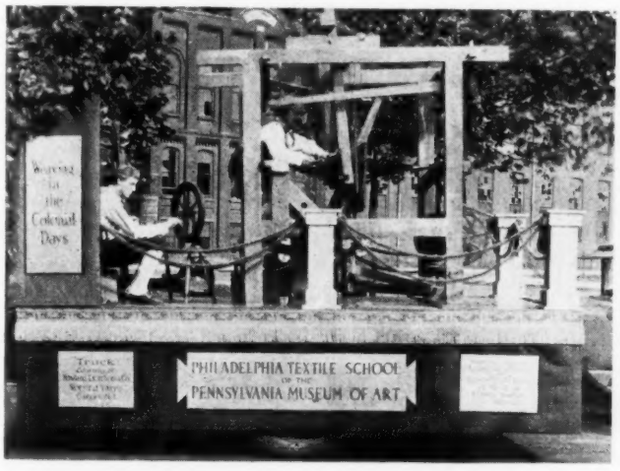
Float of local knitted outerwear mill group in Philadelphia "Wool Week" parade

funds for research. He praised the U. S. Farm Board as a "bold experiment." Referring to collective marketing, the speaker said he was surprised that wool auctions were not employed in this country, as they had been found helpful elsewhere. He also discussed wool prices, offering the thought that wool prices may be at bottom and that the wise ones at the consuming end will do well to buy now.

Motor Pageant in Philadelphia

A motor pageant depicting all phases of the wool industry was held Saturday afternoon, Nov. 7, in Philadelphia, under the auspices of the Philadelphia Wool & Textile Association, in opening the observance of National Wool Week. Twenty-six floats, led by a shepherd with three live sheep, displayed wool shearing, wool pulling, scouring, spinning, dyeing, the modern loom, and the various processes and products of the industry in a most attractive manner.

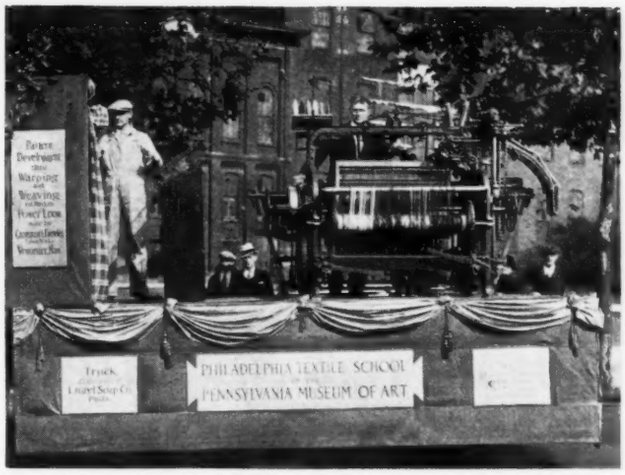
Music was furnished by the Firemen's and Policemen's Band of the City of Philadelphia. Displays also emphasized Philadelphia's position as among the fore-



Float of Philadelphia Textile School showing old time hand loom weaving

most in the country's production of textiles, such as carpets, of which 45,000,000 yd. are manufactured there each year. The Philadelphia Knitted Outerwear Association had a float with placard stating that Philadelphia produces 48% of all the knit goods and 82% of the men's clothing produced in the State, with a total output of $23,000,000 in wool garments for men and $47,000,000 for women.

Among other features were: A float depicting a golf course, showing sports sweater models of the players, a fashion show of women's coats and a window display of men's suits. A float shown by the Philadelphia Textile School displayed an old type hand loom, and another by the same school showed a Crompton & Knowles power loom, illustrating the progress through modern methods, the float being manned by students of the school. Other floats included those contributed by: I. J. Horstmann & Sons, wool pulling; Philadelphia Wool Scouring Co., wool scouring; Thos. Wolstenholme Sons & Co., wool spinning; Continental Mills, Inc.; Stanley Goldsmith & Co. sponging; Eavenson & Levering, featuring "Wish It with Wool"; Victor & Co., fashion show; U. S. Army Quartermaster Dept.; U. S. Marine Corps; Holmes Carpet Co., carpets; Richman



Float of Philadelphia Textile School showing modern Crompton & Knowles loom

Bros., clothing float. Herbert K. Webb, president of the Philadelphia Wool & Textile Association acted as the marshal.

Strong Support for Wool Promotion

Other cities, large and small, did notable work in promoting National Wool Week. Boston's special radio program, which marked the opening last Saturday featured an address by former Governor Frank G. Allen, himself a leader in the wool industry, who traced the development of the wool trade in Boston and New England generally. Other scheduled radio talks from Boston during Wool Week included one by Mayor Curley. Boston retailers did themselves proud in displays and special advertising campaigns that stressed the qualities of wool merchandise. William J. Filene & Sons devoted many windows to striking displays, and other stores also highlighted the event in various ways. The Boston Wool Trade Association subscribed to 1,000 advertisements emphasizing New England's importance in the wool industry. Other Boston events during the week were: the award of a loving cup for the best Wool Week window display in stores and a sheep-shearing contest on Boston Common. The national project has been formally endorsed by Governor Ely and United States Senators Coolidge and Walsh of Masschusetts.

The western States were no less enthusiastic in their cooperation, and governors of leading wool States endorsed the event. Promotional activities are being held in California, Oregon, Wyoming, Utah, Washington, Texas and other States. Col. Johnson, of the National Committee estimates Wool Week will sell at least $25,000,000 worth of woolens which would not otherwise have been sold. The Sonora (Texas) Wool & Mohair Corp. is spiritedly cooperating.

Woolen manufacturers in the Portland, Ore., district formed a committee which cooperated with stores in displaying wool merchandise; similar aid was given Wool Week by the San Francisco Wool Trade Association and the California Wool Growers' Association. An elaborate promotional program served to focus the attention of the Utah public on the event.

Plans for National Wool Week were in charge of Frank E. Fitzpatrick, secretary, acting under Col. Johnson, chairman of the committee, and much of the success of the event was due to the efficient and energetic work of Mr. Fitzpatrick.

Basis for Study of Obsolescence *in Worsted Spindle Age Inventory*

as Surveyed by University of Pennsylvania

◆ *The report given on these pages is the third in the Worsted Spindle Inventory series compiled and issued by the Industrial Research Department of the Wharton School of Finance and Commerce. The first report was published in* TEXTILE WORLD, *Aug. 29, 1931, and the second Sept. 19, 1931. The current report on machinery age is an excellent basis for obsolescence study.*

THE inventory schedule was mailed to all owners of worsted spinning equipment in March of this year. It asked for a classification of worsted spinning frames and mules by kind, size, and age. Kind referred to the method of spinning—cap, ring, flyer, etc.; size, to the number of spindles per machine. In order to simplify the schedule, mills were asked to indicate age by stating whether machines now owned were purchased before or after Jan. 1, 1914. If since 1914, they were asked to designate the year and whether new or second-hand. While such procedure could not provide complete age data, it did promise essential facts with a minimum of effort.

Practically all the firms that cooperated in the 1931 inventory supplied information on size and age of their worsted spinning frames and mules. The spindleage of the reporting firms constitutes well over three-fourths of the country's entire worsted spindleage. Sufficient information was also obtained about the spindleage of non-reporting mills to make the inventory an approximate census of the entire spinning trade.

How Old Is Machinery?

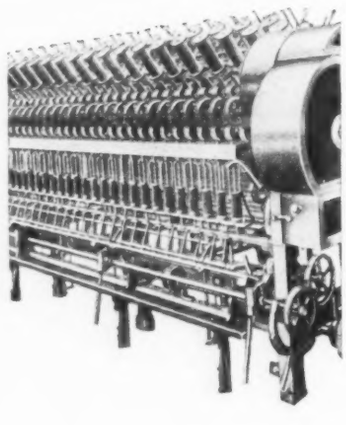
Somewhere between 65% and 80% of the worsted spinning spindle equipment now in the mills of this country is over 17 years old. On a machinery basis, therefore, worsted spinning must be termed a pre-war industry. While the inventory went back no further than 1914, several instances were encountered of spinning machinery which had been in place over 40 years. The inventory figures, of course, do not take into consideration the complete overhauling of spinning frames and mules every two or three years, a practice understood to be somewhat general in the trade. While this practice would keep the machinery in fair repair, it might not always permit the addition of the refinements present in newer equipment.

English and French Equipment. The percentage distribution of English and French machines by selected age groups based on spindleage is shown in Table I. Here it will be noticed that the English branch of the trade has relatively more old spinning equipment than the French branch. The table is arranged to show age by selected periods. For instance, frames over 17 years old are frames which were installed before the World War. Those 12 to 17 years of age were purchased during the war, or between 1914 and 1919. Those 6 to 11 years of age were purchased during the ill-fated boom of 1920-25, and those under 6 years of age represent recent purchases. The "unknown" group includes those frames and mules whose purchase date is unknown and those which have been purchased second-hand since 1914. In the case of this second-hand spindleage, one can probably infer that most of it was purchased new some time before 1914 and is, therefore, more than 17 years old.

The trade's assumption, following the war, of a prolonged "seller's market" for wool goods is seen in the percentage of existing equipment purchased between 1920 and 1925—10% in English spinning and 20% in French spinning. Contrast with these figures, the rather insignificant additions of recent years.

English Frames. Turning to specific types of English spinning, one discovers a preponderance of old frames

Summary of Report on Age and Size of Worsted Frames



1. About 75% of the worsted spinning spindle equipment now in the mills of this country was purchased new some time before the World War.

2. There is relatively more of such pre-war equipment in English spinning than in French spinning.

3. The only marked purchase of new equipment during or since the war has occurred in French ring frames. Of the 74,000-odd French ring spindles now in the industry, nearly 80% were bought new since 1919.

4. In English spinning, mills producing sales yarn exclusively have the least pre-war spinning spindle equipment—about 65% which compares with over 75% for the whole English spinning industry.

5. English spinning is mainly on a medium to large frame basis today with 75% of both the cap and ring equipment in frames carrying 190 or more spindles.

6. Practically all the new cap frames bought since 1914 have been 200-spindle frames.

7. Of the cap frames which were completely idle in mills active last year, nearly 90% were more than 17 years old.

TABLE V—ENGLISH SPINNING SPINDLES BY SIZE OF FRAME

Spring 1931

Spindles Per Frame	Per Cent of Total
Cap Frames	
Under 150	9.1
150-169	8.2
170-189	5.3
190-209	66.1
210-229	7.4
230 and over	3.9
Total	100.0
Spindles	1,303,768*
Flyer Frames	
Under 200	47.7
200 and over	52.3
Total	100.0
Spindles	61,320**
Ring Frames	
Under 170	4.9
170-189	15.5
190-209	75.3
210 and over	4.3
Total	100.0
Spindles	64,788***

*87.5% of the known U. S. cap spindleage.
**71.4% of the known U. S. flyer spindleage.
***99.0% of the known U. S. English ring spindleage.

TABLE VI—FRENCH SPINNING SPINDLES BY SIZE OF FRAME OR MULE

Spring 1931

Spindles Per Machine	Per Cent of Total
Ring Frames	
Under 400	22.9
400 and over	77.1
Total	100.0
Spindles	70,624*
Mules	
Under 590	5.5
590-629	47.4
630-669	22.0
670-709	21.2
710 and over	3.9
Total	100.0
Spindles	594,628**

*94.6% of the known U. S French ring spindleage.
**78.6% of the known U. S. mule spindleage.

TABLE I—AGE OF WORSTED SPINNING FRAMES AND MULES

Percentage Distribution Based on Spindles in United States, Spring 1931

Age in Years	English Per Cent	French Per Cent	Total Per Cent
Over 17	68.5	58.2	65.0
12 to 17	5.7	3.6	5.0
6 to 11	10.1	20.2	13.5
Under 6	2.7	1.3	2.2
Unknown	13.0	16.7	14.3
Total	100.0	100.0	100.0
Spindles	1,671,700	871,960	2,543,660

TABLE II—AGE OF ENGLISH SPINNING FRAMES

Percentage Distribution Based on Spindles in the United States, Spring 1931

Age in Years	Cap Per Cent	Flyer Per Cent	Ring Per Cent	Unknown Per Cent	Total Per Cent
Over 17	68.5	75.5	77.3	26.0	68.5
12 to 17	6.1	0.2	5.5	....	5.7
6 to 11	10.0	18.3	5.8	....	10.1
Under 6	2.7	...	7.0	....	2.7
Unknown	12.7	6.0	4.4	74.0	13.0
Total	100.0	100.0	100.0	100.0	100.0
Spindles	1,490,334	85,906	65,460	30,000	1,671,700

TABLE III—AGE OF FRENCH SPINNING FRAMES AND MULES

Percentage Distribution Based on Spindles in the United States, Spring 1931

Age in Years	Mule Per Cent	Ring Per Cent	Unknown Per Cent	Total Per Cent
Over 17	59.6	21.0	100.0	58.2
12 to 17	3.9	2.8	....	3.6
6 to 11	17.1	62.1	....	20.2
Under 6	0.2	14.1	....	1.3
Unknown	19.2	....	....	16.7
Total	100.0	100.0	100.0	100.0
Spindles	757,336	74,624	40,000	871,960

TABLE IV—WORSTED SPINNING FRAMES AND MULES BY AGE AND MILL TYPE

Percentage Distribution Based on Spindles in the United States, Spring 1931

Age in Years	Mill Type: Sales-Yarn Per Cent	Weaving Per Cent	Carpet Per Cent	Sales-Yarn and Weaving Per Cent	Idle Per Cent	All Types Per Cent
			English Frames			
Over 17	55.5	67.9	66.2	78.5	76.0	68.5
12 to 17	10.4	4.3	4.1	2.4	5.4	5.7
6 to 11	12.7	9.9	20.1	5.0	15.2	10.1
Under 6	5.1	3.6	....	1.1	....	2.7
Unknown	16.3	14.3	9.6	13.0	3.4	13.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Spindles	512,550	359,436	57,264	551,988	190,462	1,671,700
			French Frames and Mules			
Over 17	51.9	13.6	....	78.0	100.0	58.2
12 to 17	9.2	....	....	0.5	....	3.6
6 to 11	30.4	3.5	....	17.9	....	20.2
Under 6	0.2	4.0	....	1.4	....	1.3
Unknown	8.3	78.9	....	2.2	....	16.7
Total	100.0	100.0	.....	100.0	100.0	100.0
Spindles	324,196	138,700	.....	404,564	4,500	871,960

in each type; and, if the second-hand frames classed in the unknown group are considered as "old" frames, all three types of English spinning run close to 80% in machines over 17 years old. The column labeled "unknown" which appears in Table II includes those frames for which no data were available as to kind. The small spindleage used makes this percentage insignificant.

A slight trend toward ring frames is evident from this compilation, but the small number of spindles on which the percentages are based makes questionable its importance. It is possibly of more importance that nearly 13% of the cap frames were installed new less than 12 years ago. Carpet mills are responsible for most of the new flyer spindleage.

French Frames and Mules. Of the known French ring equipment, it appears that only about 21% was installed before 1914. In fact, three-fourths of the French ring frames in the country's worsted mills today have been bought new since 1919. Of course, from the standpoint of number of spindles involved, ring frames are completely overshadowed by mules. The age situation in total French spinning equipment described in Table I was merely a reflection of the age situation in mule equipment. Some comparison is made between the percentage distributions of rings and mules by age groups in Table III.

Mill Type and Machine Age. English sales-yarn mills have less pre-war spinning spindle equipment than any other type of English spinning mill. Probably not more than 65% of the English equipment now owned by sales-yarn mills is more than 17 years old, even including second-hand purchases in the "unknown" age group. On the same basis, carpet mills come next with about 70% of their spinning in pre-war equipment. The other three types of English mills follow in order with their respective percentages: weaving mills—75%, or more; idle mills—nearly 80%; sales-yarn and weaving mills—80% or more. Full details as to the distribution of worsted equipment by age groups among the various types of mills appear in Table IV.

What Size Frames?

English System. The size distributions are based only on the spindleage for which frame size is known. The assumption is made that about the same size distribution would hold if data were available for all frames in the worsted industry.

As the notes accompanying Table V indicate, the distributions are based in all cases on more than 70% of the industry's spindleage.

French System. In ring spinning, short frames play a minor part, as frames with 400 or more spindles are the rule. The machine with 600 spindles still leads in mules, but a quarter of the present mule spindleage is on machines exceeding 670 spindles. See Table VI.

About three-quarters of the country's English spindleage supplied information as to the number of frames which were completely idle during 1930. From an analysis of this information it appears that nearly 90% of the frames which were completely idle in English mills active last year were more than 17 years old.

A rather unsuspected fact developed as to size. Over 78% of the cap frames which were completely idle in mills active last year were frames with 190 or more spindles. Similar information obtained on the idleness of ring spindles was not sufficient to justify analysis. In flyer spinning about 83% of the idle frames in mills active last year were old frames as against an industry percentage for all flyers of about 80%. Here the "old" frames were chiefly frames with less than 180 spindles each.

[Joseph H. Willits is director of the Industrial Research Department, Wharton School of Finance and Commerce, University of Pennsylvania, and the wool section comprises H. S. Davis, A. H. Williams, Glen F. Brown and D. E. Ladd, secretary.—*Editor.*]

Commercial Production of Furness Process Rayon

Broadens Interest in Cuprammonium Yarn

By Winn W. Chase
Assistant Editor, TEXTILE WORLD

PRODUCTION of rayon on a commercial scale by the Furness Corp., Gloucester, N. J., brings to a climax efforts to manufacture cuprammonium yarn at a cost approximating that of the volume-selling rayons. The process used, which was developed by W. H. Furness, president of the company, permits spinning, washing, drying, and twisting of the yarn in one continuous operation. The time required to transfer the dissolved cellulose into a finished yarn is less than 3 min. An improved method is employed for preparing the solution from which the rayon is spun, and this results in a staple compound which is unaffected by temperature changes and does not require ageing or refrigeration before use.

Extensive tests indicate that finished yarn made by the Furness process has a high tensile strength and uniformity of denier, and good dyeing properties. Woven and knitted fabrics manufactured from this rayon possess an excellent handle and appearance. Additional equipment which is now being built and is expected to be in operation by Jan. 1, 1932, will give the Furness plant a capacity at that time of about 10,000 lb. per week. Forrest Bros., Gloucester, N. J., selling agents for the Furness Corp., state that one of the leading textile mills has already contracted for this total initial output. As was announced recently, Edward G. Budd Mfg. Co., Philadelphia, has been given exclusive rights to manufacture machinery used to produce rayon under the Furness patents. It is planned to license the use of this equipment to other manufacturers.

Costs Reduced

Due to the revolutionary nature of the Furness process, few details of the methods employed have been made public; and as a result, a number of unauthorized statements have been circulated. To make possible the following authoritative description of the process, Mr. Furness granted an exclusive interview to representatives of TEXTILE WORLD and permitted them to observe each step in the manufacture of rayon, as carried out in the Furness plant.

Mr. Furness stated:

"Though the cuprammonium process is one of the oldest methods of making rayon, the superiority of the product alone has enabled it to survive, owing to higher prices which could be obtained for a limited output in high grade fabrics. Its chief drawback has been the high cost of production.

"The synthetic manufacture of ammonia has brought the cost of this material to a low level.

"In addition to this fact a better knowledge of the chemistry of the copper-ammonia process has eliminated the use of many expensive materials formerly used so that the materials now used are as follows: cotton linters, ammonia, caustic soda, sulfuric acid, and copper sulfate.

"Of these, 97% of copper and 40% of the ammonia are recovered and circulate in the process; and therefore add but small expense. All of the above materials are used in much smaller quantities than were formerly thought necessary.

"As the result of these changes and improvements, the actual cost of raw materials has been reduced to a marked extent.

"It is, however, in the manufacturing methods that the greatest strides have been made. A mixture of cotton, copper hydroxide, and ammonia produces a solution in 1 hr., which after passing through the filters is

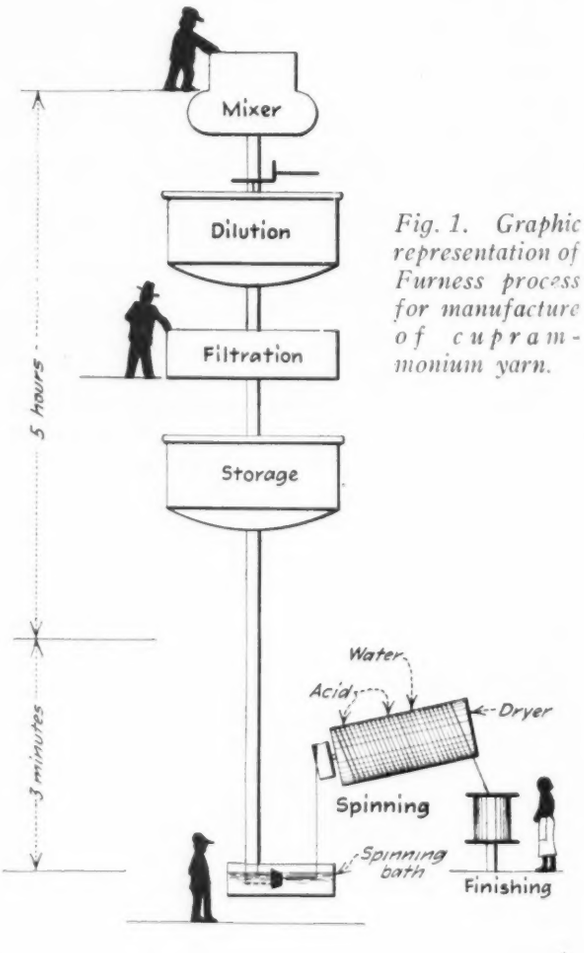


Fig. 1. Graphic representation of Furness process for manufacture of cuprammonium yarn.

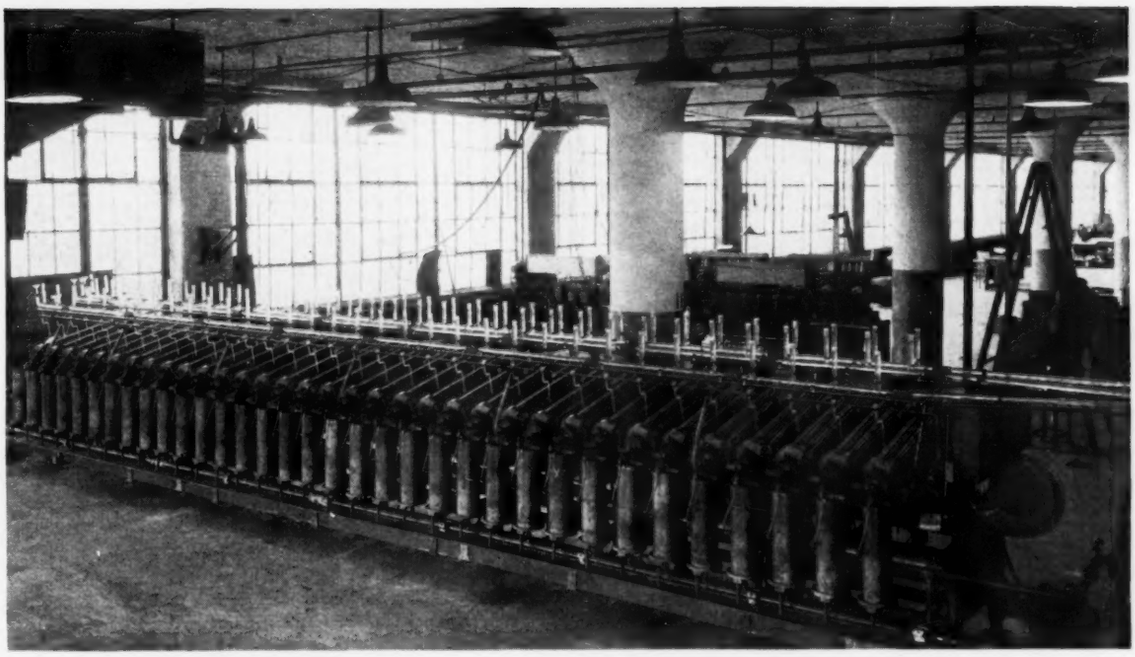


Fig. 2. Spinning machine for production of cuprammonium yarn by Furness process.

ready to spin. This solution is permanent, does not deteriorate, is not affected by temperature changes, and does not require to be aged. No refrigeration is used.

"The spinning, washing, drying, and twisting are accomplished in one operation as follows: The solution is extruded from spinnerets in the usual manner, solidified in a weak bath of caustic soda, and is led to a cylinder along which it travels in helical fashion and upon which it is washed by a small stream of dilute sulfuric acid followed by water. It then continues over a heated portion of the cylinder where it is dried, and thence to a twisting bobbin on which it is twisted and wound. The Furness spinning machine produces the yarn continuously in uninterrupted lengths without knots."

Contrary to some reports, Mr. Furness stated that the equipment used in his process is designed specifically for the production of cuprammonium yarn and that, in his opinion, it is not adapted to the manufacture of other types of rayon.

Process Simplified

In Fig. 1 is illustrated graphically the simplicity of the Furness process. Cotton linters, copper hydroxide (prepared by a special method which gives an iron-free product of high purity), and ammonia, are mixed together to form a solution. This operation, as well as subsequent steps, is carried out at ordinary room temperatures, taking about 1 hr. The solution is then diluted with water, filtered twice (the second time through cotton batting to remove the last traces of suspended matter), and passes to storage tanks.

Preparation of the solution by this method requires a total time of about 5 hr., and obviates use of refrigerating equipment, temperature-control apparatus, or jacketed kettles. Ordinary cast-iron tanks and mixers are employed throughout the operation. The resultant solution is ready for use immediately, or it can be stored for an indefinite period.

Spinning, washing, drying, and twisting are carried out continuously on the machine illustrated in Fig. 2. As stated previously with this equipment the time required to transform the dissolved cellulose into a finished twisted thread is less than 3 min. Essential parts of the machine are a filter; metering pump; spinneret; coagulating tank; revolving cage on which the yarn is carried forward while being acidified, washed, and dried; and an ordinary twister. A 34-section unit such as is illustrated, is driven by a 2½-hp. motor. With the exception of the revolving cage, which is made of stainless steel, the machine is constructed mainly of cast iron.

Spinning Machine

Cellulose solution forced through the spinnerets by the metering pump is coagulated in a weak solution of caustic soda. A close-up view of the machine showing the yarn leaving the coagulating bath and passing over the guides to the revolving cage is given in Fig. 3.

This revolving cage or cylinder is 8 in. in diameter and is built up of 28 stainless steel rods, 38 in. long. As the cylinder revolves, alternate rods are raised and depressed slightly and the yarn is carried along the cylinder in a helical manner.

As the yarn progresses along the cage, it is acidified and washed on the counter-current principle. The method employed for acidifying and washing is made clear by reference to Figs. 2 and 3. Extending the length of the unit are three glass tubes with outlets over each cylinder. A stream of dilute sulfuric acid is allowed to flow on the yarn from the first two outlets, and water from the third. Since the cylinder is set at a 13° angle, the acid and water run down it in the opposite direction to the travel of the yarn. Utilization of a floating siphon gives a constant flow of the wash liquors. The waste solutions containing copper salts are piped to a recovery system, where the copper is reclaimed by a special precipitating process. Uniformity of denier is achieved by gearing the metering pump with the revolving cage, and uneven tension on the yarn while it is in the wet state is avoided by tapering the cylinder in such a manner as to compensate for any expansion or contraction of the yarn which occurs while it is being washed.

Drying of the rayon is accomplished by a steam-

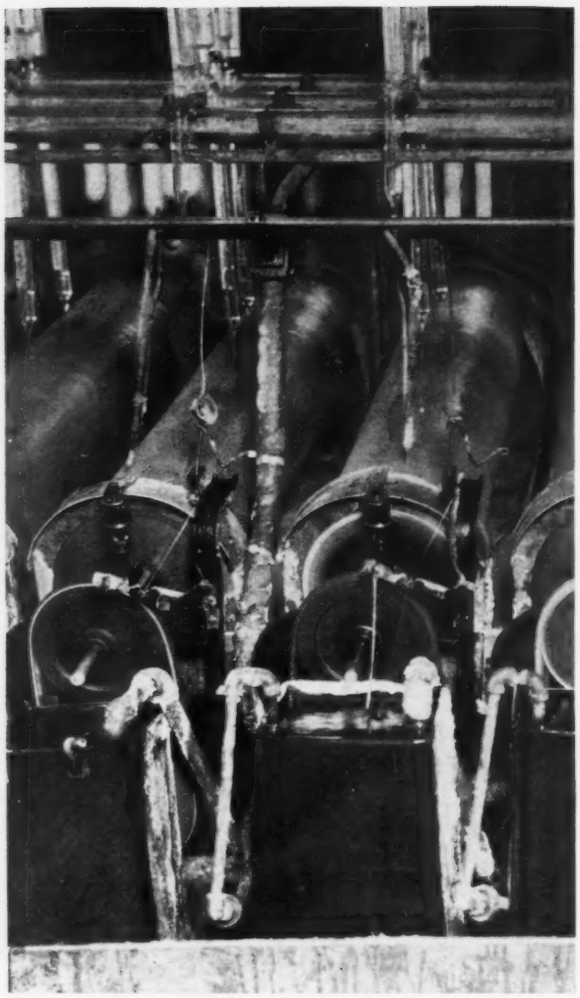


Fig. 3. Section of spinning machine showing yarn leaving coagulating bath and passing to revolving cylinders upon which it is acidified, washed and dried.

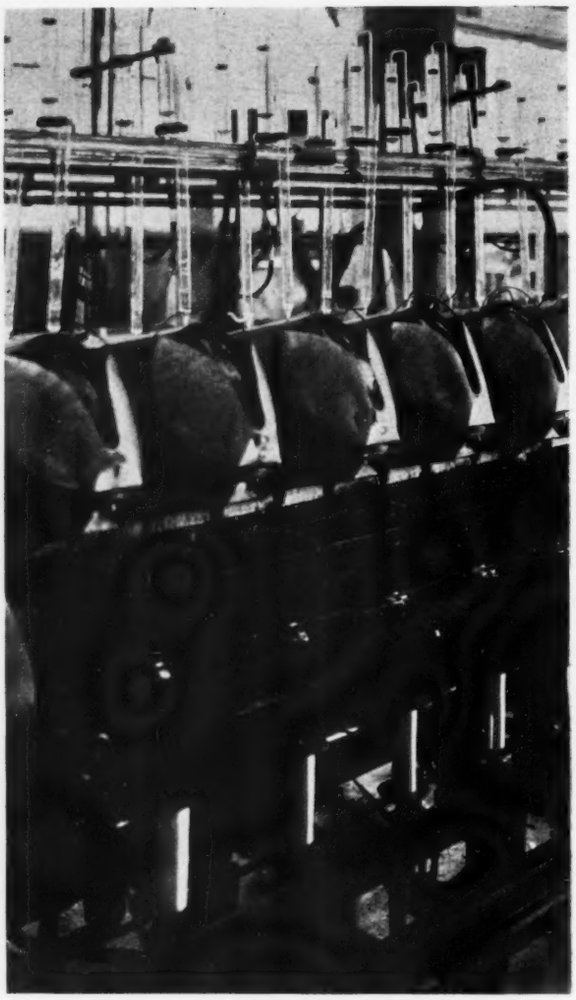


Fig. 4. Close-up view of spinning machine, illustrating manner in which twisting and spooling operations are performed.

heating element located inside the cage and near the delivery end.

In the final operation, the yarn is given a twist of three turns per inch, and is wound on spools, when it is ready for warping. Fig. 4 is a close-up view of a section of the "dry" side of the unit, and illustrates the manner in which twisting and spooling are effected. In the Furness plant, 1 lb. spools are employed, each spool holding 90,000 yd. of 50-denier yarn; 45,000 yd. of 100-denier, etc. Since the spinning speed is approximately 75 yd. per min., in the case of 50-denier yarn, a spool is filled in 20 hr.

Low Labor Cost

As the only manual labor involved in the operation of the spinning machine is replacing of the full bobbins with empty ones and cleaning of the filter at intervals of about 3 mos., one operative can care for several units, thus reducing labor cost to a low point. Since any defect in the rayon can be observed as the yarn leaves the revolving cylinder previous to twisting, inspecting and sorting are unnecessary. It is stated that about 95% of the total production is first-quality yarn. Tests for uniformity of denier are made quickly and simply by weighing a 9-meter sample of the yarn as it comes off the machine. In addition to the low cost for labor and supervision, the small floor space required for the equipment and its low cost of installation and maintenance are important factors which make for the high efficiency of the process.

Dyeing Properties

In its dyeing properties, rayon produced by the Furness method is similar to the older types of cuprammonium yarn. The following tests conducted by the Furness Corp. on 50-denier yarn give an idea of the physical properties of the rayon: wet elongation, 18.3; dry elongation, 9.7; tensile strength wet, 1.12 grams per denier; tensile strength dry, 2.93 grams per denier.

According to Mr. Furness, the simplicity of the spinning process, and the stability of the copper-cellulose solution, give rise to the interesting possibility that individual textile mills may find it feasible to manufacture rayon for their own consumption. If this plan were adopted, little equipment other than the spinning machine itself would be required, as the solution could be obtained in drums or tank cars ready for use; and after precipitating the copper from the waste liquors, the crude precipitate could be returned to the vendor of the cuprammonium solution.

RESEARCH

A Stabilizer for Industry— Says Dr. C. H. Herty

RESEARCH is the great stabilizing influence in industry. Through it, alternate periods of scarcity and glut can be avoided. When growth stops, decay sets in. Industry cannot be stable if it is tending to go backward. It cannot help going backward if it does not utilize the possibilities of research.

This was the message brought to the U. S. Institute for Textile Research by Dr. Charles H. Herty, internationally known chemist, at the annual meeting of the Institute last week.

Even though he could not see his way clear to bring still another message—that of acceptance of the presidency of the organization—the inspiring character of his address infused new determination into the membership and the executive personnel.

Abstract of Dr. Herty's Remarks

An abstract of Dr. Herty's remarks, which were extemporaneous, follows:

There is a sharp contrast between the attitude toward research during the present depression and that manifested during the depression of 1921-22. Immediately following the war, there was a tremendous outgrowth of research in this country. Then panic struck us in 1921 and 1922, and swept nearly all that research off the board. Tremendous programs were wiped out, indicating that the seed of research had been sown on rather stony ground.

Compare that disaster with the present depression. Undoubtedly a great many research staffs have been curtailed—but there has been no such wiping out of research programs as developed in 1922. This is evidence that we have made real progress as to appreciation of the importance of industrial research.

What happened to bring about this change?

Take the petroleum industry: In 1925 or 1926, I was shown a report on research which had been lying buried in that industry's files for two years. We got some action on this report and soon had a fund of $500,000 which was farmed out to universities. After this money was secured, the 120 problems outlined in the aforementioned report were gone over by two of the leading men in the field. They threw out only two problems—and those *because these men thought they were too practical.* In other words, they wanted to keep the fund employed on fundamental problems. Since that time, the work has been producing exceedingly interesting results.

Take another field: Five years ago there was no real appreciation of research in the steel industry. But on Oct. 16, this year, there was held in Pittsburgh an open meeting of the advisory committee on research, attended by 410 of the leading men in the field, who had journeyed to Pittsburgh, for just one day, to listen to reports of progress in research done by the Bureau of Mines, the Carnegie Institute of Technology and 44 steel companies, on technical problems in steel manufacture. Five years ago, it would have been impossible to get a dozen men there.

Finally, I shall cite the paper industry. Admittedly backward in research in the past, it has begun to wake up. At Appleton, Wis., under the leadership of paper makers who have felt the need of training research men for the paper industry, there has been established an institute for paper chemistry in connection with Lawrence College. A new building has been erected and equipment manufacturers have installed the best types of machinery.

These are merely a few examples. In other words, industry seems to be getting hold of the idea that real progress has got to be made with research leading the way.

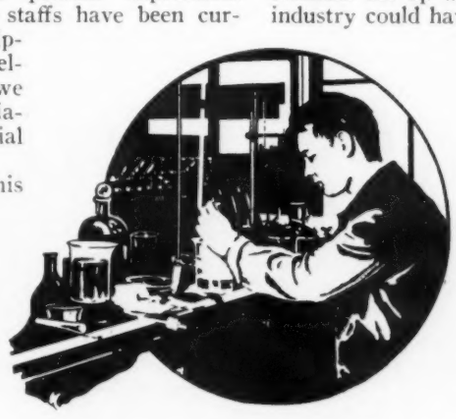
Turning to the textile industry, there is a real possibility in connection with the Textile Foundation. [Dr. Herty then reviewed the background of the Textile Alliance fund which was the basis of the establishment of the Foundation.] I am glad to see that the directors turned to the U. S. Institute for Textile Research, for a survey of progress. It is also inspiring to reflect on the attitude evident at the meeting between textile men and research men a few months ago, which resulted in the establishment of a Foundation fund of $100,000 for fellowships, to answer the need of training men for the textile industry.

Industry and Government Must Cooperate

Finally, I want to discuss research as a stabilizing influence. I am a firm believer in the statement that, when growth stops, decay sets in. You can't be stable if you tend to go backwards.

A document I have here, written just a hundred years ago, points out the importance of prompt diffusion of statistical data to prevent alternative periods of scarcity and glut, with resulting harm to consumer and producer. And yet, it has just recently been decided to discontinue the annual dye census which represents the one admirable step ever taken by the Government to give an industry accurate information on which it could formulate its advance. It has been stated that this decision was made because the Tariff Commission was afraid it might be attacked later on the grounds that it was giving too much to one industry. Instead of taking this backward step, a forward step should be taken, and other industries given the information they need.

Of all the propositions as to what we should learn from the depression, I haven't seen the suggestion that the Government set up a statistical bureau so that all branches of industry could have regular and accurate reports on production, consumption, stocks, etc. There is not a manufacturer in this country who can't afford to set up an extra department, if necessary, and pay another man just to supply such information to the Government.



Congress has got to see this, and make appropriation for it—and industry has got to cooperate.

Research is the great means of preventing booms or depressions, and of bringing about stability. That is why I have emphasized the need of research along the lines of statistical information on production and consumption.

Attractive Weave and Color Effects

Secured by Varying the Common Twill

By R. A. C. Scott

◆ *Although the common twill is one of the most elementary of weaves, it is capable of practically unlimited variation by means of which attractive color and weave effects may be obtained. The author, in the accompanying article, describes the construction of several weaves whose basis is the common twill and clearly illustrates why the latter has been rightly termed "the backbone of the weaving industry." Designers have, in the exploitation of this basic weave, a wide field in which to demonstrate their capabilities. The author also makes specific recommendations to insure satisfactory results from the finishing processes.*

THE common twill, as its name implies, is one of the most common and widely used weaves in the manufacture of all woven materials. This weave is designated as "four harness weave," but it is also widely known under the following titles: "serge," "blanket," "sheeting," "shalloon," "harvard," "batavia," and "cassimere."

Being one of the three foundation weaves (plain, ordinary twill, and sateen), it is possible to obtain unlimited weave variations from its basic structure. Owing to the frequency of the intersections, cloths employing this weave are firm; and when set square, equal proportions of warp and filling are shown. In this latter respect it differs from the prunelle (2/1 twill) or the swansdown (3/1 twill) and of course gives a more balanced effect. In light-weight goods, in which fine yarns are employed and firm setting practiced, a very neat and fine twill will be formed; whereas the reverse would result in heavier weights, necessitating coarser yarns and looser construction. Again, by modification of cloth setting, the angle of inclination will be increased or decreased according to the proportion of ends to picks or vice versa per unit space. In fact, the common twill is so elastic in its many practical uses that it has been rightly termed "the backbone of the weaving industry"; and it can be modified to produce some very complex structures and fancy effects. By employing the usual colorings in these various weave modifications, some very pronounced and effective designs can be built up.

Let us now compare a few of these color effects and familiarize ourselves with their different features. Fig. 1 shows the common twill (1*A*) with a white warp and black filling; and Fig. 2, the same weave (1*A*) with one thread of white and one thread of black alternating in both warp and filling. Figs. 3 and 5 weave as 1*A*, but with two-and-two and four-and-four colorings. Fig. 4 weaves as 4*A*, but with three-and-three colorings. Fig. 6 weaves as 4*A*, but has one-and-one warp crossed with two-and-two coloring in filling. The coloring effects of Figs. 4 and 6 use the same weave but start on the eighth thread. By changing the order of warp coloring, weave 1*A* could be used, e.g., No. 4 would read two threads black, three threads white, and one thread black. No. 6 would start with one thread black instead of white. However, it is better to modify the weave and keep the warp patterns straight where possible.

A comparison of the above six colors effects cannot fail to convince the average individual of the widely divergent features procured. For instance, Fig. 1 shows a straight, clear-cut diagonal in contradistinction to Fig. 2, which is a distinct step effect. In like manner Fig. 3 is of the stripe order, whereas Fig. 4 is more of a broken-step diagonal, with Fig. 5 nearly approaching a check effect. In Fig. 6 we have a predominance of white in the form of irregular squares bordered on each side by vertical lines of black. Many more examples could be given by way of illustrating the unlimited coloring possibilities of this simple weave. In addition to this, a variation can be had by employing three or more color schemes or by combining two or more of these effects in stripe or check formation. For instance, the familiar "Glen Check" is simply a combination of Figs. 3 and 5 in equal parts in warp and filling.

Color Effect Related to Weave

At this point it would be well to emphasize the importance of the correct order of coloring in relation to weave formation. As an example, suppose we reverse the color order in Fig. 3—a very different effect would result. Instead of a stripe design, a bar effect would be obtained,

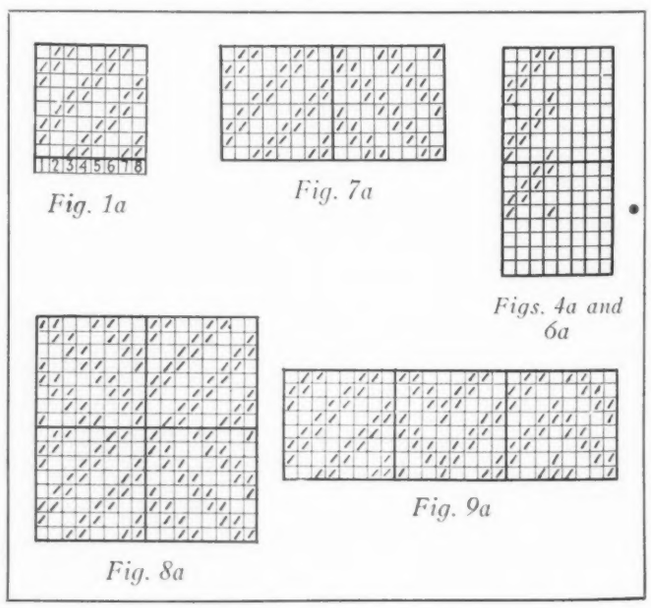


Fig. 1a *Fig. 7a* *Figs. 4a and 6a* *Fig. 8a* *Fig. 9a*

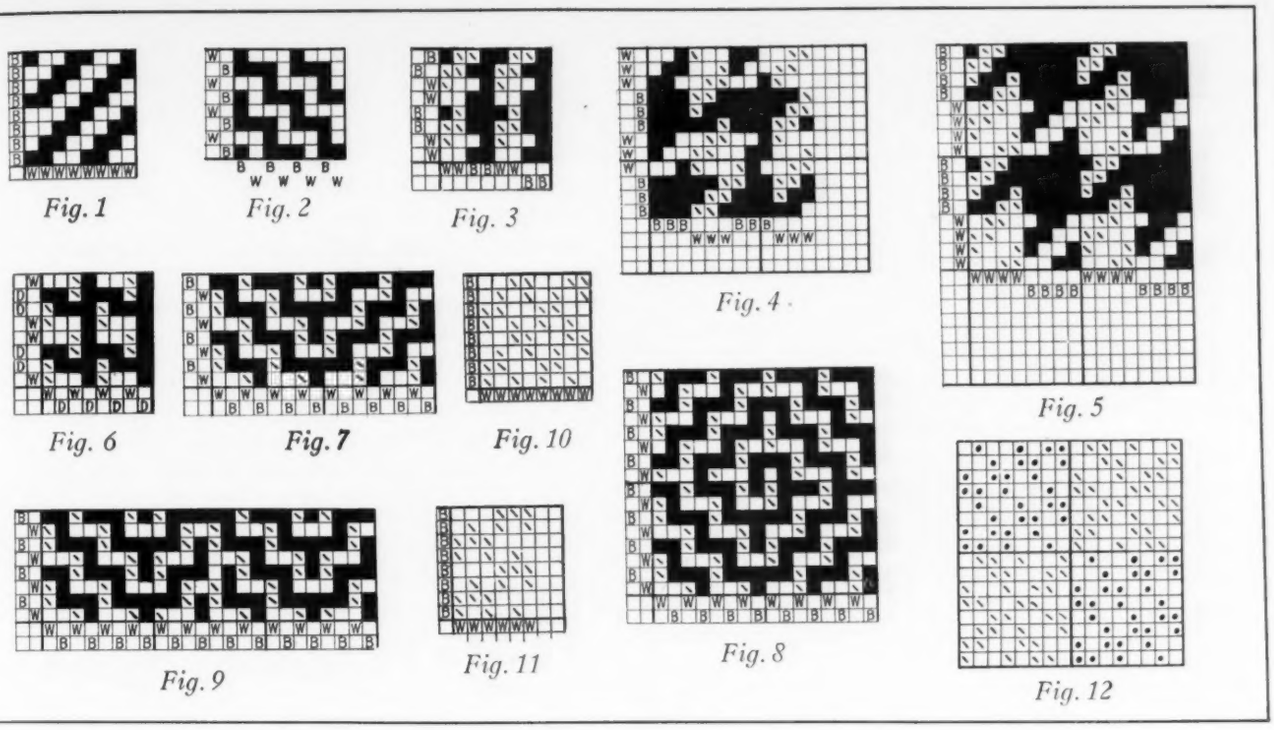


Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

Fig. 6 Fig. 7 Fig. 10 Fig. 8 Fig. 12

Fig. 9 Fig. 11

which would be less attractive as well as defective in color crossing.

In Figs. 7*A*, 8*A*, and 9*A* we have further variations of this weave, there being one thread of white and one of black in both warp and filling. By drafting eight threads right and eight threads left and making a clean cut where the twills join, the effect as sketched in Fig. 7 is produced. Extending this herringbone principle in the filling, a diamond effect as shown in Fig. 8 results. By using an irregular draft of eight right and four left, a zigzag twill is formed (see Fig. 9). Equally good novelty designs would be had by coloring solid white in warp and solid black in filling. All the foregoing weaves are suitable for either men's or women's fabrics and have been used rather extensively in both fields.

The Russian twill or the two-right and two-left drafting of common twill (Fig. 10) constitutes one of the most attractive effects when used in coarser fabrics of the overcoating type. It will be noticed that the odd picks in this weave are working plain, which brings it into the same category as the three-harness twill for firmness and favors its use for cloths employing thick yarns and heavy effects. Owing to the absence of any elongated twill effect, it is pre-eminently suited to cloths having a napped or raised finish, such as chinchillas or whitneys.

Care in Finishing

Of course, defective construction and careless finishing must be guarded against in making these cloths; otherwise disappointing results will accrue. As a guide, therefore, I should advise setting about 10% under the maximum, with a loom width of approximately 74 in.; and in finishing, I recommend fulling to width, making sure that there is enough cover to completely conceal all textural characteristics.

The weave illustrated in Fig. 11 is another variation of the common twill secured by drafting on four harnesses and denting in threes. This is called the "bell-basket." It is very attractive in heavy fabrics and is often employed in combination with other weave variations either in stripe or block-check formation. The most general coloring employed for this weave is white or light-colored warps and dark-colored fillings, the latter varied at times with one pick fancy and one pick dark alternating. The fancy pick floats three up and three down, and is rather effective if properly blended.

Building Weave Checks

So far we have discussed the smaller and most widely known effects peculiar to the common twill and its variations. This, however, by no means covers the various possibilities of this weave, so we shall next consider a few of the larger and more elaborate effects. Before doing so, however, perhaps mention should be made of the numerous ways by which weave checks are built. The best known of the latter are alternate or block checks and continuous or guard checks, based on the twill and its modifications.

Fig. 8, already referred to as a diamond design, is in reality a block-check arrangement of right and left twills. More elaborate effects, however, can be obtained by using different weave modifications and also by altering the color crossings, using one formation of the weave.

In Fig. 12, for instance, we have a block-check arrangement on sixteen harnesses. This is made up of alternate sections of 4x4 diamond weave, the remaining two sections of left twill "cutting two's." Whether this be colored, light warp and dark filling, or contrasting colors in one-and-one pattern in both directions, a more or less distinct effect will result. A much larger and more elaborate design will be found in Fig. 13. Although this may look rather complicated, it is after all quite a simple construction. The method followed in building this block check consists in first filling in four threads and four picks of right and left twills in alternate sections of sixteen harnesses each, which leaves a square of 8x8 in the center of each section. By inserting the reverse twill to the border in each square, the design is completed. This will reduce to 24 harnesses by drafting. The same color effects as suggested for Fig. 12 would suit this equally well and prove just as effective.

In Fig. 14, weave 4*A*, we have another idea of a block check which lends itself to many varieties. In this in-

stance the straight twill is used; but by using a special pattern effect in both warp and filling, we get a distinct design of the check order. It is hardly necessary to explain this further. Suffice it to say that by starting the pattern with one thread instead of two in each section, two threads of different colors weave together, which changes the color crossings with the result shown. If desired, each block can be increased in multiples of 4; i.e., 12, 16, 20, etc., which would give a much larger design.

An example is given in Fig. 15 of a continuous or guard check, using right twill "cutting two's" for ground and the ordinary left twill for the check.

Harnesses Required

The most interesting, useful, and fancy variations of the common twill are based on the principle of the two-and-two ends, arranged either on the odd ends or the odd picks. If the warp method is used, these ends are weavable on two harnesses, separate harnesses being required for the remaining ends. The following formula gives the number of harnesses required: (Ends in design $\div$ 2) + 2. When used as picks, however, the number of harnesses required is equal to half the threads in the design. This method gives a firmer cloth and eliminates the filling floats of threes, so frequently met with when adopting the warp method.

The common-twill basket check on 16x16, using the warp method, is illustrated at Fig. 16; and at Fig. 17 the pick method is shown. By comparing these two systems, it will readily be seen that the latter is of a firmer construction and has no filling floats over two. Basket checks can be made in sizes ranging from 8x8 to 48x8. The coloring necessary to give a well-defined weave effect is white warp and black filling, although the one-and-one coloring in contrasting tones is very effective and frequently used. By introducing a basket effect or spot in the center of each section, a fancier design of a smaller nature would be produced. A Grecian key effect is produced by coloring the design at Fig. 18 in the two-and-two order; whereas with the one-and-one coloring or white warp and black filling, a diamond figure would result. This demonstrates in a very effective manner the close relationship of pattern and color to weave.

A large, fancy diagonal is illustrated at Fig. 19, which is suitable for either the one-and-one or the light-warp and dark-filling methods of coloring. Both 18 and 19 are based on the two-and-two-ends method, already explained. The dots in each case represent the two-and-two ends and the mark "1" indicates the right twill, whereas the mark "V" represents the left or fancy part. In Fig. 18 the two-and-two ends are placed on the even threads instead of the odd, which is necessary in order to suit the color pattern.

Building from Motives

We shall now consider another method and one of a simpler nature; namely, building from given motives or bases. The principle of this system is well known and widely practiced, and the resulting designs produce some very novel effects in both woolen and worsted fabrics. As in the previous designs, use is made of the two-and-two ends, which are obtained by "cutting" the opposite twills at the filling junction. It will be noted that in constructing these designs, counterpart threads in the motive are weavable on the same harnesses. This will be clearly understood by referring to Figs. 20 and 21 (which are the right and left twills of the common twill), where it will be found that thread number 2 of Fig. 20 is the same as number 4 in Fig. 21; and in similar manner 4 in 20 is the same as 2 in 21.

Fig. 18a
Cloth Effect

Taking the well-known "Dice Crow" as a motive for this class of design, the number of harnesses required will be ten; i.e., two each for threads 1, 2, 3, and 4 in motive, plus two for the two-and-two ends. Threads 5, 6, 7, and 8 are the opposite of threads 4, 3, 2, and 1 respectively. Although the complete design is given at Fig. 23, it may be pointed out that this is not necessary, as the draft and plan can be made directly from motive—see Figs. 24 and 25. As each mark and blank in motive represents four threads and four picks, it is easy to find the total ends and picks in the repeat of design. Thus, 8x4 = 32 ends and picks.

By using distinguishing marks in motive, it is hoped

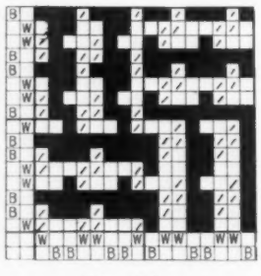


Fig. 14

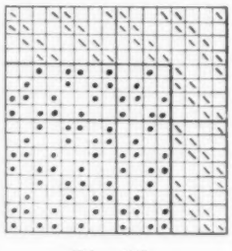


Fig. 15

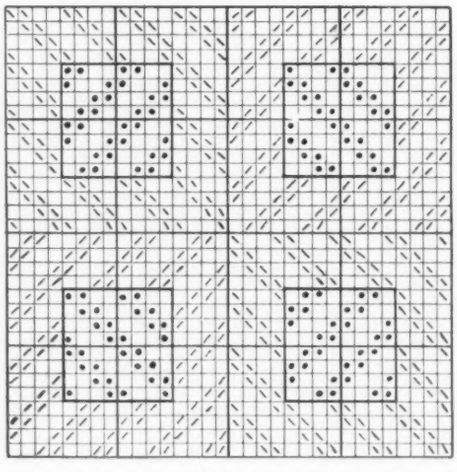


Fig. 13

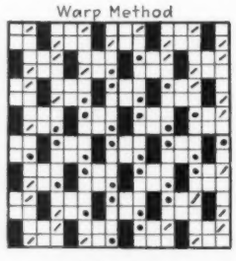


Fig. 16

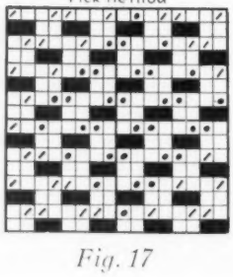


Fig. 17

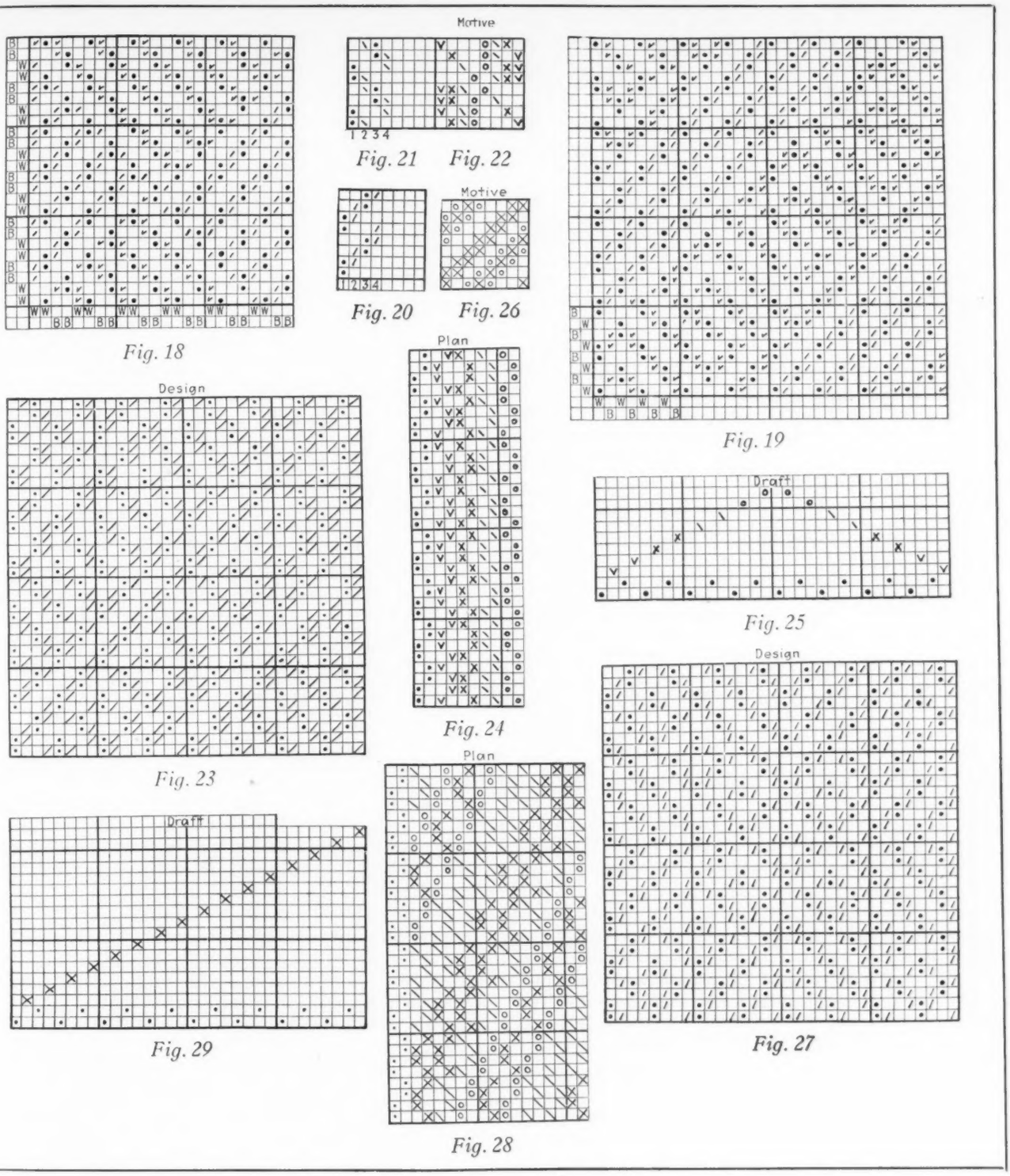


Fig. 18 *Fig. 21* *Fig. 22* *Fig. 20* *Fig. 26* *Fig. 19* *Fig. 24* *Fig. 25* *Fig. 23* *Fig. 27* *Fig. 29* *Fig. 28*

that the reader will be better able to follow the method employed in constructing the plan and draft directly from the motive, instead of first making the design and reducing in the ordinary manner. Numerous examples could be cited in further explanation of this method; but by following the instructions set out, the student should have no difficulty in making other designs according to his individual creative ability. Before leaving this subject, however, it might be advisable to mention the fact that the basket weave can be suitably and effectively employed in conjunction with the right and left twills. For example, let us take Fig. 26 as the motive, with *X* representing right twill, blanks representing left twill, and *O* representing basket. The complete design is illustrated at Fig. 27, which shows a rather unusual, yet attractive diagonal effect. The plan and draft are illustrated at Figs. 28 and 29 respectively. In passing, it should be noted that although the motive was made on eight ends, the same as motive at Fig. 22, the former takes eighteen harnesses. This, of course, is due to the fact that the twill order of the motive is straight and is not subject to opposite sections.

In conclusion, it will be found that all of these designs can be produced on ordinary looms of 24-harness capacity. In some cases, in fact, the designs could be used in double-cloth structures and still be weavable on the ordinary loom. The principles of varying the common twill as herein explained, I hope, will be of assistance to the young designer in furthering his knowledge of weave construction and pattern production.

Steps Necessary Toward

Composite Raw-Silk Classification

By Warren P. Seem

Julius Kayser & Co.

◆ *"The American consumer," writes Mr. Seem, "is anticipating that, beginning with July, 1932, when all silk is to be classified at the conditioning house of the Japanese Government, the present irregularities in quality will cease. We are presenting our researches to show that the Japanese composite grading and the tentative method adopted by the committee of the Silk Association of America in June, 1931, fall short of the ideal." Mr. Seem offers some very pertinent suggestions toward the development of a more satisfactory set of standards. A subsequent article by Mr. Seem, to appear in an early issue, will discuss uniformity as the principle of composite classification, the five major qualities, the composite differential, and a method of estimating composite value.*

WE HAVE tried the composite method adopted by the Japanese Government Silk Conditioning House in May, 1931, and checked it with the progress report proposed by the Silk Association of America in June, 1931. We find different grades indicated when applying both methods to the same measurements, as well as an irregular evenness result. We heartily indorse the composite grading in principle and the proposed plan of classifying all Japanese silk at the Government Conditioning House after July, 1932.

We wish to give the movement definite support by offering to the trade and the various committees the benefit of our researches for a classification that is based on principles independent of the human equation and one that is fair and equitable to all parties concerned. We hope that it will encourage a frank and open discussion that will enhance the cooperative efforts started to develop an international standard.

We recognize that the practice of submitting samples for tests is unsound on general principles, that it cannot continue indefinitely, and that there must eventually be developed an international standard as a medium of trading that is satisfactory to reeler, importer, and manufacturer. During the past eleven years we have purchased our raw silk subject to our own tests for evenness, cleanness, neatness and physical qualities. Our rejections have ranged from 20 to 80% during the eleven silk seasons. We have had considerable expense in testing, experienced many delays in getting acceptable silk, carried excessive stocks, and found that there is great room for improvement benefiting all parties concerned.

Nine ten-bale lots, reported as of one grade, were tested at the Japanese Conditioning House and graded by them according to their May, 1931, method. We applied to the Japanese measurements the American percentages of importance. Table I is the result.

A summary of these tests shows two lots alike and seven lots of the American one grade higher than the Japanese. Assuming a differential of 15c. per pound to a grade, there is a difference of about $1,400 indicated between the two gradings.

The variation in grade between the Japanese and American evaluation is due to different values used in the relative-percentage-of-importance tables and the percentage scale for composite grading as shown by Tables II, III and IV.

Fifty skeins were extracted from four bales of each of the nine ten-bale lots and these were tested in the Julius Kayser & Co. Laboratory for evenness by the nine-meter sizing test. On two lots, 0063 and 0066, the Japanese samples were also tested. The comparative results are as in Table V. (See May 2 and 9, 1931, and Oct. 24, 1931, TEXTILE WORLD, for details of nine-meter-sizing test for evenness.)

TABLE II

Japanese Weight of Importance
Evenness 40%
Low Evenness 30%
Neatness 20%
Cleanness 10%

TABLE III

American Relative Percentage of Importance
Evenness 60%
Low Evenness none
Neatness 20%
Cleanness 20%

Test 0063 shows an evenness by seriplane of 82.85% and a size deviation of 1.37 deniers. The nine-meter evenness on Julius Kayser sampling is 71%; and on Japanese, 73.5%.

Test 0028 shows an evenness by seriplane of 82.80%, or only 00.05% difference from test 0063, but shows an evenness by nine meters of 77.40, or 6.4% difference. The deviation in size on 0028 is 0.81 denier, or 0.56 deniers lower than test 0063. On the Japanese sampling of test 0063, the difference is but 3.9% between the seriplane and nine-meter.

Calculating the deviation in denier on 450 meters, column 2, in percentage by the nine-meter method, we have column 3, which on test 0063 shows a deviation of 82.8%; and on 0028, 90.9%. Multiplying these percentages by the seriplane evenness, we have column 5, which on test 0063 gives 68.55%, or 2.45% less than the nine meters on Julius Kayser & Co.'s sampling and 5% less on Japanese sampling. On test 0028 the difference between the product of the seriplane and size deviation evenness and the nine-meter evenness percentage is 2.14%.

The difference between the seriplane tests on the two lots is .05%; the difference between the product of the seriplane and size deviation percentage is 6.71%. The difference between the nine-meter tests on Julius Kayser sampling is 6.40%. At a price differential of 15c. per pound per grade by the seriplane method, the two lots

are of the same value; on the two other methods lot 0063 is worth about 37½c. less per pound than lot 0028.

If the nine-meter tests are reliable, the errors shown in the seriplane evenness tests are alarming, and comparative studies by parties dealing on the seriplane basis are indicated as urgent. (As the nine-meter sizings are wound on the seriplane, the same silk can be studied by standard panels.)

Qualities Included

At the 1929 International Conference in New York, the Japanese delegates presented their first composite grading based on A and B tests for evenness, size deviation, cleanness, and neatness. They did not consider the low evenness percentage of any value. The American delegates insisted upon the low average, and considered the A test for evenness of little value and the size deviation unnecessary. The minority members of the Raw Silk Classification Committee considered size deviation as essential, and low evenness as of no value.

The Japanese compromised with the American idea and brought out a second method in which they eliminate the size deviation and A test for evenness but include the low average and originate the weight-of-importance feature to estimate a composite grading. They evaluate the composite grading on three qualities; viz., evenness, low evenness, cleanness, and neatness.

The American Joint Committee in June, 1931, in their progress report, eliminate the low average but put it in a secondary class subject to penalties. They adopt the Japanese principle of weighting the important quality but change the percentages of relative importance on evenness and cleanness and the percentages on the composite scale. They evaluate the composite grading on three qualities also; viz., evenness, cleanness, and neatness.

Both committees put size deviation, strength, and cohesion in a secondary class subject to minimum values but rate them so low that they have little or no classification value. This virtually leaves the evaluation of the physical properties open for barter and necessitates private testing by many manufacturers in order to make a proper selection of raw silk suitable for their needs.

This experience indicates the need of an unbiased international committee passing upon all classification methods before they are given to the trade for trial so as to avoid different percentage values and grading on the same silk in the producing and consuming markets. To make this practical, it appears that a strong effort should be made to eliminate the human equation and establish such standards that the same tests made on the same silk give the same results the world over.

The get-together spirit in both committees is commendable; but the results, which appear to be a compromise for the sake of expediency, make it seem unprofitable for the consumer to trade by the tentative American method and quite profitable to buy under the Japanese government standards.

Method and Purpose

The purpose of composite classification is to combine the five major characteristics of raw silk into an equitable trading medium to serve the whole industry, and not a classification for a specific branch or product.

Grade all silk so the real value for any specific purpose can be readily ascertained from certificate of tests issued at point of origin to be tendered in lieu of samples for test. This simplifies trading by the importer and gives the buyer the opportunity to select the desired silk with little delay and expense. It combines all the characteristics in one classification and eliminates minimum values and barter on superlatives. It also relieves the importer of the burden of supplying samples and carrying an unnecessary stock to replace rejections, due often to the whims of inspectors, and saves the consumer unnecessary costs of testing, etc.

As to the rule upon which the composite grading is evaluated, the writer finds on pages 419/22, Second International Conference proceedings, that Mr. T. Higo says in substance that the aim was to give each characteristic a value or weight of importance from both the reeling and manufacturing standpoint. The classification by minimum value does not encourage the filatures to improve the quality of raw silk. They recognize that the weight of importance varies in accordance with different types of manufacturing.

The knowledge of the weight of importance that one gives to various characteristics when one selects or assigns raw silk for a specific product is generally acquired from researches,

TABLE I

	Japanese Conditioning House Tests				Japanese Composite Grading		American Composite Grading	
Certificate No.	Evenness %	Low Evenness %	Neatness	Cleanness	%	Grade	%	Grade
0012	84.45	73.	86.	92.90	82.17	B	86.37	A
0023	84.25	74.	88.	88.70	82.37	B	85.73	B
0024	85.40	74.4	85.55	85.90	82.18	B	85.32	B
0025	84.05	72.2	88.85	90.90	82.14	B	86.18	A
0032	84.40	73.4	88.10	91.10	82.51	B	86.44	A
0028	82.80	72.2	88.80	87.	81.24	C	84.60	B
0063	82.85	72.8	86.	85.2	80.7	C	83.66	B
0033	81.15	71.4	86.85	84.9	79.74	D	82.68	C
0066	80.35	70.	86.85	81.7	78.68	D	81.47	C
				Avg.—	81.52	Avg.—	84.94	

TABLE IV

Japanese and American Grades and Scale of Composite Percentages.

Grades	AAA	AA	A	B	C	D	E	F	G
Japanese	88	85.5	83.5	81.5	80	77	72	67	Below 67
American	90	88	86	83	80	77	70	69	Below 69

TABLE V

Comparative Results

	Japanese Conditioning House Tests				Julius Kayser 9-Meter Tests	
Cert. No.	Dev. Deniers 450 M.	Dev. % 450 M.	Evenness % Seriplane	(3x4) Product Seriplane x Dev.	Evenness % on 9-Meter J. K. Sampling	Evenness % on 9-Meter Jap. Sampling
0063	1.37	82.8	82.85	68.55	71.	73.5
0066	1.10	88.5	80.35	71.10	70.95	71.7
0033	.98	89.7	81.15	72.84	73.10	....
0032	1.17	87.9	84.40	74.18	74.20	....
0024	0.96	88.7	85.4	75.74	77.	....
0025	0.92	91.6	84.05	77.03	77.21	....
0012	0.83	91.	84.45	76.84	78.97	....
0023	0.80	92.	84.25	77.74	80.10	....
0028	0.81	90.9	82.80	75.26	77.40	....

collective experience, and accumulated data covering many years. It is the privilege of but a few to cover in a lifetime the various branches of the industry and thus acquire an all-round experience. Those of us who have had that privilege recognize how many variables there are and have a definite vision that the trade in general will be greatly disappointed with a composite classification based on the weight of importance. It is predicted that such a composite classification will be a constant target for criticism and subject to constant changes and that the favored consumers will continue to buy silk subject to private tests. This will defeat the apparent purpose of classifying all Japanese raw silk at the government conditioning house.

We shall now consider size deviation and nature as they apply to the grading of raw silk to show why they should be made a quality subject to the composite evaluation.

Size Deviation

Matsame Toyobe, in the Second International Raw Silk Conference Report, page 78, says:

"We have conducted an elaborate investigation and experiments on many lots of raw silk and studied the relation existing between the testing results of size-deviation and evenness tests. It was found that the results of these two tests are not always in correlation. The result of evenness test shows the degree of evenness on short lengths of raw silk, and it cannot indicate the degree of size uniformity of thread length on one panel. The length of sizing skein is 450 meters, and the result of size deviation test denotes the degree of size uniformity of the length of raw silk which corresponds to nearly the same thread length of one panel of seriplane. Therefore, in addition to the evenness test, we perform the size-deviation test."

Albert Bosshard, in a report to the Raw Silk Classification Committee (which is given herewith by his consent), says on size deviation that:

"Stehli Silks Corp. has used the seriplane test for evenness for a number of years, in fact almost since the apparatus was put on the market. We advocate the use of the seriplane for testing evenness, cleanness, and neatness. It is one of the most practical machines which has been developed so far for testing raw silk. On the other hand, neither the inventor of the seriplane nor those who are using it intelligently have ever claimed that this method of testing is 100% accurate or perfect.

"In the course of time the inherent weaknesses of the seriplane have become more apparent, or have been realized more adequately by careful inspectors; viz.,

"1. This test for evenness is based upon comparison with standard panels, or photographs; and due to an infinite variety of patterns or stripings of various width and intensity, the results of the readings differ to a greater or lesser extent according to the experience and the judgment of the seriplane reader.

"2. It is considerably more difficult to judge and properly evaluate stripes caused by *coarse* ends than those caused by fine ends, hence many errors are made in this respect.

"3. Due to variations in color, especially as found in Italian silk, it is much harder accurately to rate *yellow* silks than white.

"4. Certain silks composed of more, and therefore *finer*, filaments, but of shorter cocoon length than Japans, may show quite some stripings on the seriplane boards, which variations in many cases are not so pronounce but still result in lower percentage figures; and such silks are therefore often judged too severely—particularly in the case of China steam filatures.

"Owing to all these considerations, we have used for the last few years, in connection with the seriplane test, the percentage sizing as a test for evenness, which has worked out very well.

"The basis for this test is 'quarter' or 112½-meter sizing skeins; 120 of them are made from a lot. These skeins are weighed on a specially constructed quadrant scale on which the weights can be read at once on the basis of 450-meter skeins, instead of 112½ meters. * * * * We would strongly recommend the use of this test in place of the size-deviation test. The latter has proved to be very indefinite and vague in its results; whereas the very opposite can be said regarding the percentage sizing as a test for evenness."

We are presenting A. Bosshard's article in part as a timely and commendable contribution to the cause, particularly the statement that the Stehli Silks Corp. has used another test together with the seriplane to evaluate evenness. We know of other laboratories prominently identified with the seriplane studies which are doing the same. We state this to show that in the best informed companies the seriplane is not considered sufficient as an evenness unit test.

The writer agrees with A. Bosshard that the size deviation as given by both committees is vague, but does not find that it is necessary to make a quarter sizing test to correct it. However, if the size deviation on 450 meters is calculated in percentage, then the seriplane average can be corrected and an evenness unit shown, as far as the deviation in size affects it, by the product of the evenness and size-deviation percentages.

Nature

Leo Duran in the January, 1931, *Silk*, referring to the buying of silk on a basis of the seriplane evenness test alone, says, "It is unbelievable that in this age of progress, raw-silk buying should be conducted in such a rudimentary way." He says, in reference to the choice, origin, and values of the cocoons, that "on an equal seriplane percentage of 85% there is a difference of 50c. per pound between filatures due to the origin of cocoons."

The impression appears to prevail in the primary market that, as the sorting of cocoons in the filature is done with extreme care, silk sold to the consumers as of one lot is uniform in nature throughout; that the grading of nature is unnecessary; and that the disposition of silk, as far as nature is concerned, is controlled by importers and private inspectors.

We find, however, that there are books and bales of hard and soft nature mixed in five- and ten-bale lots. It is common knowledge that Chinese cocoons are reeled in Japan and the silk shipped to the consumers as Japanese silk. There is no objection to this if the nature is uniform and the consumer is informed as to the nature, but when such lots are shipped under the same chop as soft-nature Japan, they are often used together, resulting in trouble and loss.

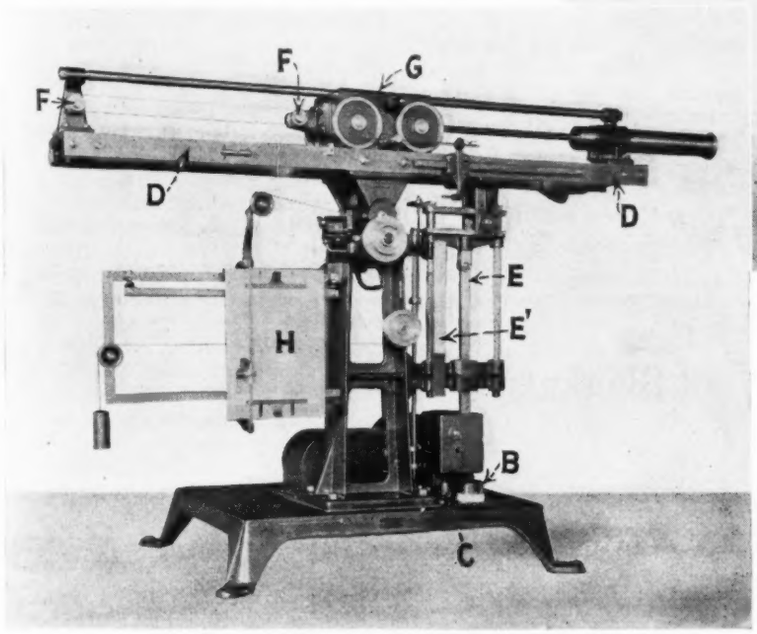
The writer has collected considerable outside information and data during the last two years as to the extent that nature influences sleazy knitting, irregular lengths in stockings, shaded dyeing, and friction marks. He finds that the loss directly and indirectly due to mixed nature and ignorance of the quality is enormous.

It is a fact that a thread low in nature or lacking in uniformity in nature often causes a flabby fabric, poor

hand, fuzziness, lousiness, mixed shades, irregular lengths, etc. It is therefore not fair and equitable to evaluate the silk causing defective fabric on a par with silk that does not. In building a composite we must always differentiate between the two.

Permit me to ask the trade to what extent the following troubles prevail in their plants and in their findings. Are they sufficient to justify including nature and deviation in size in the composite classification?

Hosiery and Warp Knitting. Irregular lengths in gum hosiery due to deviation in size of silk? Mixed shades in same stocking? Chafe or friction marks due to soft-nature silk? Lousiness and fuzziness in finished stocking? Weak and flabby stocking? In ingrain hosiery, lousiness, fuzziness, and mixed shades? Bad matches between leg and foot due to deviation in size?



Front view of inclined-plane serigraph for measuring raw-silk nature

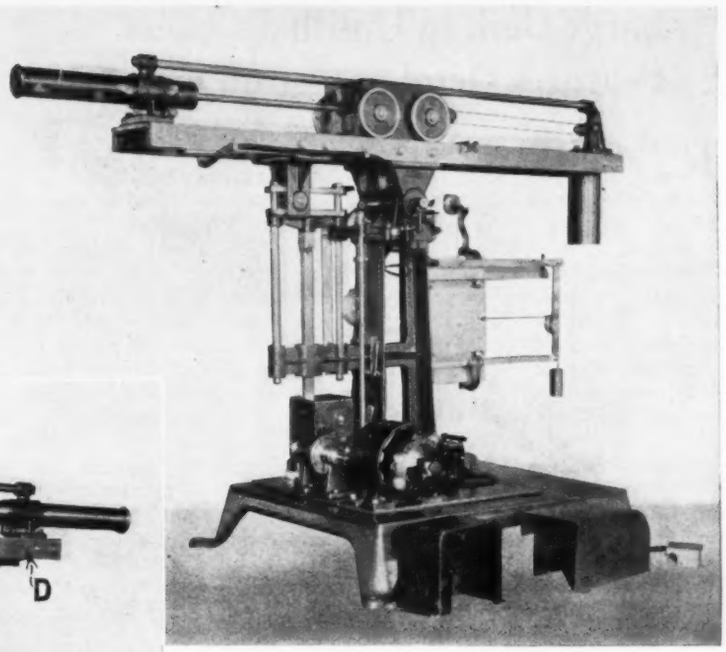
Throwster. Breaks due to weak threads? Split threads due to brittle cocoon fibers and low cohesion? Trouble in treating hosiery threads due to irregular nature and due also to ignorance as to the nature of ten-bale lots? Corkscrews and loopy tram caused by irregular nature?

Dyeing. Mixed shades in hosiery, skein, and piece-goods dyeing? Poor luster, poor hand, lousiness, and fuzziness? Trouble with tin weighting?

Weaving, Gum Silk and Skein Dyed. Low cohesion affecting the weaving operation? Lousiness and fuzziness in fabrics? Snarls and kinks in crepe due to improper treatment by throwster? On boiled-off silk and skein dye, lousiness, fuzziness, and irregular dyeing?

Soft-nature silk dyes a lighter shade than does the hard in the same dye bath. Soft, it appears, requires more dye for the same shade. In a still soaking liquor the soft absorbs more emulsion than the hard. Silk low in nature in boiling off splits into fibrillae more readily than does the hard. It also possibly divides into finer filaments, but on that point more study is necessary to arrive at the facts.

The minor cleanness and neatness defects which protrude from the body of the fabric sometimes exfoliate; and, as they transmit and reflect light differently, one finds thousands of lighter-colored specks or lousiness of various degrees. When the whole fabric or thread exfoliates excessively, it has a dull appearance. Rarely does one find a whole lot subject to exfoliation; but often one finds silk mixed throughout the lot that does exfoliate, and it damages the whole product. Researches show that skeins which weaken and exfoliate are rarely found in silk high in nature, but almost always in lots low in nature. Problem in classifying is to detect the silk susceptible to exfoliation and weakening during processing and classify it properly so that the buyers can use it in a product not requiring excessive handling in dyeing. The continual disregarding of nature will eventually reflect upon the Japanese product as a whole.



Rear view. For details of this machine see page 27, Oct. 11, 1930, TEXTILE WORLD

How are the American and Japanese committees meeting these conditions in their classification? First, they base the composite grading on but three major qualities; viz., evenness, cleanness, and neatness. Second, they place strength, elongation, cohesion, and size deviation in a secondary class, subject to penalties which leave the physical qualities and size deviation open for barter and make it difficult to establish a standard of qualities.

The strength values given in the Japanese report are so low that one might call it the dividing line between useful and useless silk. The American committees give a more useful subdivision.

The cohesion test, being subject to impurities and roughness of the thread, does not indicate any degree of molecular cohesion and therefore has little value as a coefficient to indicate nature.

The writer's experience in processing raw silk for throwing, weaving, and knitting indicates the necessity of knowing the nature of raw silk to handle it intelligently, and he desires to emphasize the importance of nature in silk classification. Nature may be determined from the coefficients of strength, elasticity, and cohesion or by the nature test made on the inclined-plane serigraph.

Large Gain in Unfilled Orders Features October Cotton Goods Figures

REPORTS of production, shipments and sales of carded cotton cloths during the month of October, 1931, as announced by The Association of Cotton Textile Merchants of New York last Monday, show a most encouraging increase in unfilled orders at the end of the month. The figures cover a period of four weeks.

Stocks on hand at the end of October amounted to 255,833,000 yd. as against 244,924,000 yd. at the beginning of the month, an increase of 4.5%. Shipments during October were 216,207,000 yd. which figure 95.2% against production of 227,116,000 yd. Sales amounted to 333,679,000 yd. which were 146.9% of production, and 131% of the total goods on hand at the end of the month. Unfilled orders of 344,639,000 yd. on Oct. 31 show an increase of 117,500,000 yd. or 51.7% over the business on hand at the close of the month of September.

In actual yardage, as well as in percentage, this is the greatest improvement in orders on hand recorded in any single month since these statistics have been gathered. This rather clearly indicates that buyers generally are coming to the conclusion that the record low price on cotton and correspondingly low prices on cloth warrant forward commitments and that hand-to-mouth buying is being abandoned in favor of more liberal purchasing policies.

It also carries a reasonable assurance that the employees of the cotton textile industry will, in the main, be kept fairly busy during the coming winter.

Meeting on Nov. 20 to Consider Labeling of Wool and Part Wool Blankets

ALL manufacturers, distributors and organized users interested in wool and part wool blankets, are invited to attend a general conference under the auspices of the Division of Trade Standards of the Bureau of Standards, to be held at 10:00 a.m., Nov. 20, at the New Yorker Hotel, New York, to discuss the adoption of a standard for the labeling of wool and part wool blankets, relative to percentage of wool content.

This conference, called at the request of the National Retail Dry Goods Association follows a meeting between wool manufacturers and representatives of the Merchandise Managers Division of the N.R.D.G.A., in New York on Oct. 7.

In order that any action taken by this conference shall represent the best thought of all those who are directly concerned, it is urged by the promoters of the meeting that interested manufacturers, distributors, and organized users attend or submit suggestions in writing.

The blanket industry has realized the importance of the adoption of a standard somewhat as proposed, and it seems that this recommendation embraces a plan that may be mutually satisfactory to all interests.

J. L. Fri of the National Retail Dry Goods Association will present the proposed standard to the meeting. L. R. Gilbert of the Bureau of Standards will outline procedure. The meeting will later set effective dates for new production and clearance of existing stocks; also the revision interval. The request will also be made to producers to record the tangible benefits from standardization.

The conference will consider the following recommended standard:

"1. *Purpose.* The purpose is to provide standard methods of labeling wool and part wool blankets in order to protect the interests of the manufacturer, distributor, and consumer, by means of an open understanding on the significance of label wording and tolerances on the amount of wool contained in a finished blanket.

"2. *Application.* The percentages and tolerances given herein are applicable to finished blankets as delivered by the manufacturer.

"*Standard Percentages of Wool Content.*—No finished blanket containing less than 10% wool shall carry the word 'wool' in any form.

Blankets Containing Wool Between	Shall be Labeled
(1) 10% and 20%	"Not less than 10% wool"
(2) 20% and 30%	"Not less than 20% wool"
(3) 30% and 40%	"Not less than 30% wool"
(4) 40% and 50%	"Not less than 40% wool"
(5) 50% and 60%	"Not less than 50% wool"
(6) 60% and 70%	"Not less than 60% wool"
(7) 70% and 80%	"Not less than 70% wool"
(8) 80% and 90%	"Not less than 80% wool"
(9) 90% and 98%	"Not less than 90% wool"
(10) Above 98%	"All wool"

"*Methods of Test*—In the event of disagreement between the buyer and the seller as to the methods of test to determine the amount of wool in the finished blanket, the test methods used and approved by the National Bureau of Standards shall be considered satisfactorily accurate."

▸ Ipswich Mills at Gloucester Are Not for Sale

Ipswich Mills, Inc., Gloucester, Mass., manufacturers of women's silk full-fashioned hosiery, have been running full time for the last eight months and the knitting department is on a three eight-hour shift basis, declared H. G. Reynolds, president, in explaining that reports relative to sale of Ipswich Mills property had no connection with Ipswich Mills, Inc., at Gloucester.

"Our plant at Gloucester is not for sale," he said. "It has not been shutdown since we began operating in 1929. In March of that year my brother J. R. Reynolds and myself purchased the trade mark, name and goodwill of the old Ipswich Mills, at Ipswich, and the mills at Gloucester. We employ 200 persons and sell direct."

▸ H. K. Webb Heads Philadelphia Wool Association

Herbert K. Webb, Chas. J. Webb Sons Co., was re-elected president of the Philadelphia Wool & Textile Association at the annual luncheon meeting held Friday, Nov. 6, at the Downtown Club, Philadelphia. Clarence E. Doan was reelected first vice-president; Joseph S. Lord, second vice-president; J. Elwood Moore, treasurer; Frank D. Levering, secretary. The executive committee including the above officers, also includes Theo. B. Hayward, D. Webster Bell, Howland W. Bottomley, John F. Horstmann, Walter G. Kratzer, Frank R. Baltz and J. Moulton Collins, editor of *The Quaker Ram*, the publication of the organization. Hon. Harry N. Mackey, Mayor of Philadelphia, who was a guest of the association was presented with a suit of the new "Yankee Blue" worsted, the official color of National Wool Week. The suit was made of wool from Philadelphia, scoured, spun, woven and tailored in that city. In addressing the meeting, Mayor Mackey complimented the association on the part it was playing in promoting National Wool Week in the city and elsewhere in order to stimulate customer interest in woolen and worsted products.

Bertram Reinitz, editor of the *Garment Review* was the guest speaker. He stated that 5,000 retail stores were participating in the observance of wool week, which he said would result in the moving of $25,000,000 worth of goods in the nation. He also told of the fashion research work now being carried on for the industry and declared as a result many fabric buyers are now turning to the product of American mills, with the trend now toward woolens. "Style," said Mr. Reinitz, "is progressive obsolescence." He added that women, in buying ready-to-wear apparel, are governed 70% by the decorative effect and only 30% by utility and discard their garments long before their usefulness is ended. He also asserted that mere reduction in prices has never brought prosperity. That if a cloth is not selling and paying dividends for the mill at $1.37 a yard, it certainly will not at $1.32 or $1.29.

▸ October Finishing Activity

The National Association of Finishers of Cotton Fabrics has issued its monthly statement of percentage of normal aver-

Jack Card Hears a Call to Arms

Editor, TEXTILE WORLD:

The first time we heard a man say that "what the world needs just now is a good war," we regarded it as a not too successful attempt at a joke.

But the other night at a dinner party, we heard a silk manufacturer say the same thing—and we realized he was thinking of a specific war, and that he wasn't joking either.

The idea, of course, is that a war in general would destroy billions of dollars worth of surplus materials and products; and that one war in particular would do this job specifically for the silk industry.

It's a grand idea. At the end of the war, we could all start building new plants and running them night and day. Everybody would have a job.

And why worry about the depression of 1940 or 1945? That's a long way off.

Out of this sort of thinking, wars —and fools—are made.

JACK CARD.

age capacity operated in the industry as follows:

	1931 October (5 Weeks)		1930 (4 Weeks)	
White and dyed combined	49	42%–White 58%–Dyed	51	47%–White 53%–Dyed
Fast black	18		22	
Logwood and/or sulphur black	30		41	
Prints	64		55	
	1931 September (4 Weeks)		1930 (4 Weeks)	
White and dyed combined	49	43%–White 57%–Dyed	49	45%–White 55%–Dyed
Fast black	24		23	
Logwood and/or sulphur black	38		29	
Prints	70		51	

▸ S.T.A. Spinners to Meet

The fall meeting of the Spinners' Section of the Southern Textile Association will be held at the Franklin Hotel, Spartanburg, S. C., Nov. 20. L. P. Duncan, superintendent, Inman (S. C.) Mills, assistant chairman of the section, will lead the discussion which will be based on a questionnaire distributed at the semi-annual meeting of the association in Charlotte, N. C., Oct. 10. Special emphasis will be placed on the consideration of high speed spooling and warping, long draft spinning, and cork and calf skin covered rolls. Luncheon will be served at the Franklin Hotel at $1.00 per plate.

▸ Textiles at Hotel Show

Textiles were represented by a varied line of merchandise at the 16th National Hotel Exposition in Grand Central Palace, New York. The contingent of textile and apparel exhibitors was larger than that representing the industry last year. Sheet and pillow case and rug mills were outstanding.

Successful Fight Against Tuberculosis in the Textile Field

By Dr. H. E. Kleinschmidt

Director of Health Education, National Tuberculosis Association

AT the recent Conference of Southern Tuberculosis Workers held in Atlanta last month, a staff member of the National Tuberculosis Association stated that the work being done in North Carolina to protect children against tuberculosis is so outstanding as to serve as an example for the whole country. Discovering tuberculosis in its very earliest form by means of the tuberculin test and the X-ray, is the newest way of attacking the old enemy. It carries the fight back some 20 years before actual disabling disease appears.

The work among children in North Carolina is conducted by the extension service of the State Sanatorium under the supervision of Dr. P. P. McCain. Almost 100,000 children have been examined in the cities, towns and rural sections of the State thus far.

Naturally Dr. McCain was interested to learn if the textile industry has had any influence on the extent of tuberculosis. He said: "We expected to find a larger percentage of school children with actual tuberculosis in the textile communities. This has not been our experience however. In fact, in some of the textile communities, especially where the workers were well housed and well cared for, the percentages were smaller than in other localities.

"Last year we gave the tuberculin test to 9,743 children in Gaston County, N. C., which probably has a larger textile industry than any single county in the South. We found that only 9.9% of the school children in this county, including the children of high school age as well as those of other grades, gave positive reactions to the tuberculin test. About 60% of these children came from the homes of textile workers. Only 1.87% of all the children studied showed demonstrable tuberculous lesions as determined by physical and X-ray examinations. Most of these were the childhood type lesions."

In Massachusetts where a similar work is being done, the average percentage of 40,000 school children who reacted to the test was 28%.

"Less than 2 out of 100 school children," said Dr. McCain, "showed (by X-ray tests) that the tubercle bacillus had already done damage in the lungs, and most of these cases were very early ones—not so-called adult type tuberculosis." This percentage also is lower than for the corresponding group in Massachusetts.

This extension work is carried on in cooperation with the North Carolina Tuberculosis Association, which is financed by the sale of Christmas seals. The tuberculosis association was instrumental in establishing the State sanatorium and its extension work, now financed by the State. Dr. L. B. McBrayer, director of the association, was Dr. McCain's predecessor as superintendent of the sanatorium. It is important, not only that these tests among children continue, but also that the parents of the children, and the public in general, should understand what it is all about. Tuberculosis is robbed of its terror by thorough understanding of it.

On Thanksgiving Day throughout the United States, the little anti-tuberculosis Christmas Seals make their appearance, being sold for one cent each during the holiday season. Although the colorful little stickers are visible to the public only during the few weeks between Thanksgiving and Christmas, they work throughout the year in 2,084 anti-tuberculosis associations to cut down the toll of tuberculosis among all classes, of all ages, in all industries.

▸ Plan World-Wide Expansion of Cotton Market

A world-wide expansion of cotton markets is contemplated in a movement now being launched throughout the cotton spinning industries of Europe, according to George A. Sloan, President of the Cotton-Textile Institute.

A report just received by the Institute from Norman S. Pearse, General Secretary of the International Federation of Master Cotton Spinners' and Manufacturers' Associations of Manchester, England, who quite recently spent some time in America studying the new uses activities of the Cotton-Textile Institute, explains how this movement to expand cotton uses is being started in the European countries by the International Cotton Committee and the International Cotton Propaganda Committee following a recent joint meeting of these two committees at Wiesbaden, Germany. Each affiliated association in Europe will be requested to appoint a special educational committee to work out the conditions for expanding the uses of cotton suitable to its own country.

The Joint Committee at Wiesbaden examined with great interest the samples of cotton uses furnished by the Cotton-Textile Institute and the detailed report of the Institute's activities as brought back to Europe by Mr. Pearse. It was the sense of the meeting that Mr. Pearse will undertake at once a visit to the textile producing centers of Europe with a view to acquainting all cotton textile trade associations and mill executives with the plans of the Joint Committee. In addition, a committee from the International Federation of Master Cotton Spinners' and Manufacturers' Association will meet with the Haute Couture in Paris early this month to encourage the use of more cotton fabrics in their spring openings and fashion show.

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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Scrubbing Floors

Editor, Overseers' Round-Table:

AFTER READING the article on "Getting Down to Scrubbing the Floors" I don't think that the superintendent or overseers should have anything to do with scrubbing. These men have enough to do above the floor in looking after production and laying out the work.

The scrubbing job should come under the head of the maintenance engineer's department. He is the man responsible for equipment and buildings and can take care of this work along with his duty of making repairs and keeping machinery and buildings in shape at all times. Scrubbing should be done at regular intervals or as the head of this department sees fit. Of course, a report should be made to the super on all work done.

PETE STEIER,
Chenango Textile Corp.

Editor, Overseers' Round-Table:

SCRUBBING FLOORS is a job not connected with any particular department of a mill, but with all departments. The scrubbing gang should be under the super, or someone appointed by the super.

Scrubbing should be done at regular intervals rather than at random. If one department needs attention oftener than the others this can be arranged for in the schedule.

If each overseer is responsible for the floors in his department some over-particular overseer will use the scrubbing gang oftener than necessary, while another overseer, not so particular, will not have the floors scrubbed often enough.

P. H.

Editor, Overseers' Round-Table:

TO MY mind the best method to use of keeping floors clean is to work out a schedule for the entire plant, and organize a crew to suit the size of the mill and the length of time necessary in each department, which would depend on how hard the floors are to keep clean.

The overseer of each department should have charge of the crew while in his room, see that the floors are left clean, and that the crew leaves on schedule time.

"A SOUTHERNER."

About Fences and Locks

"THE other day," Superintendent Chase settled into his chair, "I was talking with a man who sells to textile mills and he told me that he had been quite amused the week before by running up against two extremes. He went to one mill in the morning and evidently drove up on the wrong side because he could see no sign telling where the office was. He fussed around a bit and then opened an unmarked door. He wandered through the plant with nobody paying much attention to him and finally found the office. Naturally, he apologized for busting into the mill in this manner, but the manager didn't seem concerned at all and said it didn't make any difference. Well, the very next mill this man went to had a fence all around and the gate was locked. On the gate was a push-button which the man pressed. After a time the watchman came out and, after questioning the salesman as though the mill were the Bank of England, finally let him in to the office.

"As I said," Chase continued, "these are two extremes, but it set me thinking whether a mill should be more or less open to anyone or kept pretty well guarded. What do you think?"

"I think that the mill that was all locked up like a war-time munition plant was plain silly," Bill vociferated. "I'll bet you that the workers in that plant felt as though they were in some sort of jail, and I'll bet that they weren't doing as much work as they would if they didn't have that cooped-up feeling. After all, the workers should be made to feel that they aren't serving time. A lot of the workers might like one of their children to come into the mill just before twelve and bring a hot lunch. I see no harm in this and it is one of those things that make a worker feel as though he is receiving ordinary human treatment. There are many other cases where the workers like to feel that someone can get in to see them without difficulty in case something turns up. As far as having a watchman interview everyone is concerned, that is the bunk, and poor policy to boot. All this

Chewing Tobacco

Editor, Overseers' Round-Table:

THERE ARE probably few habits more disgusting, dirty and obnoxious to the observer than tobacco chewing. Nevertheless, the niceties of life to the contrary, if a man working in a mill feels that he is doing himself a favor and is

...and Watchmen

'secret' stuff is usually known by lots of others, and just think what would happen if an important customer stopped in that mill and had to explain everything to some dumb, suspicious watchman. He'd be pretty sore, I'll say."

"Just because," Pete retorted, "Mr. Chase mentioned an extreme case Bill is all excited. I'm very much in favor of taking reasonable precautions so that outsiders can't wander into the plant. If the mill is wide open you'll have a lot of kids running around for the fun of it, more kids trying to sell candy, friends dropping in for a chat, and various birds trying to sell the workers something. You can't tell me that you can operate a mill properly under such conditions. You don't have to make the workers feel that they are being kept entirely apart from the outside world, but you can have reasonable restrictions which keep the workers from being disturbed unnecessarily. And, remember, Bill, if watchmen are needed there are a lot who aren't chronic grouches."

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Do *you* believe that it is wise to take precautions against outsiders getting into the mill?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

increasing his worth to the factory by chewing tobacco, let him chew. Remember, a mill man is human, he cannot be treated as an unfeeling machine.

When dealing with the tobacco habit it must be remembered that the human element must be allowed to remain well in view. It is true that tobacco splattered splotches are unsightly, but for my part I would rather see those than faulty cloth or retarded production. Another small point is that most men are tobacco users in one way or another and it is far better to have them at their work chewing than off in a corner smoking. Of the two evils let us choose the less hazardous.

It is not necessary however to have a messy looking plant just because there are a few tobacco chewers; wherever it is necessary we provide a small metal receptacle which the individual uses and keeps in a reasonably sanitary condition; this, we find, eliminates any dissatisfaction on the part of the worker and likewise on the part of the management.

RAY E. BALLARD,
Ballard Silk Co.

Editor, Overseers' Round-Table:

MY ANSWER to the question "Do you think that tobacco chewing in the mill should be regulated, or forbidden" is:

It is about as easy to rule tobacco spitting out of the mill as it is to rule hernia out of the mill. The only practical way to keep hernia to a minimum is to not hire those afflicted with it. I think the same method should be taken with tobacco spitters.

HOMER EMERY.

The Wage Differential

Editor, Overseers' Round-Table:

I HAVE just read your discussion on the question, "Do you believe that textile overseers are paid a sufficient differential above the average operative?"

That is really a very hard question to answer in a definite way because overseers' duties vary greatly with different mills. Take an overseer of carding in a mill of 10,000 or 15,000 spindles on coarse carded work, then compare this overseer's responsibility with one who has all combed work and has to furnish roving for 100,000 spindles probably on counts running up over 100s.

The overseer is undoubtedly one of the most important men in the organization of any mill and the management should realize this when setting his salary. An efficient and conscientious man will save for his employers many times the difference that may be paid for his service over that of an overseer who is just content to let things slide along.

One thing that is much neglected is the proper recognition of a man who through efficient management reduces his cost without affecting quality. I know of a particular instance in a large mill where an overseer saved his company $15,000 the first year he was on the job, yet this man was only paid $3,000 a year salary, and in spite of his accomplishment he was not given a raise the following year. A bonus system which will pay to the overseer a percentage of all the money he saves in his department is one of the best ways there are of bringing out the most in a man. Of course, a maximum would have to be set.

I think on the average an overseer is not paid enough considering his responsibility and in setting his salary, the size of the mill, whether on fine or coarse work and his ability to reduce costs should be considered. B. W. G.,
Overseer of Carding.

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Summary of Discussion on Scrubbing Floors

Slightly over 60% of the contributions were in favor of having scrubbing floors under the supervision of the super, or someone appointed by the super, with a regular schedule by which the scrubbing gang would go from one department to another. About 20% were opposed to any such system and stated that the individual overseer should have entire charge of his own department in this respect. The remainder believed that there should be a central crew, but this crew should be under the control of the overseer while working in his department.

NEWS about MEN

John H. Cheatham, president and treasurer, Georgia-Kincaid Mills, Griffin, Ga., has been elected vice-president of the Thomaston (Ga.) Cotton Mills and other plants in the Hightower group. He will continue as executive head of the several mills with which he is connected at Griffin and Hartwell, Ga.

John A. McGregor, president of the Utica Steam & Mohawk Valley Cotton Mills, Utica, N. Y., is one of several textile men listed as a director of the recently merged First Citizens Bank & Trust Co., a combination of First Bank & Trust Co. with the Citizens Trust Co. and Utica Trust & Deposit Co. Other directors include: **Beecher M. Crouse,** president of the Skenandoa Rayon Corp.; F. Ramsay Devereux, president of the Oneita Knitting Mills; **Oscar W. Gridley,** general manager of Utica Knitting Co.; **Alexander F. Hobbs,** president of the New York Mills Corp.; **Arthur Hind,** president of the Hind & Harrison Plush Co.

George A. Sloan, president of the Cotton-Textile Institute, was host, Nov. 9, to representatives of various associations affiliated with the cotton textile industry at lunch. Those present listened to a very interesting statement regarding conditions in Europe, made by **S. Robert Glassford,** president of Bliss, Fabyan & Co., New York, who has just returned from abroad.

J. G. Hanes, president of Hanes Hosiery Mills Co., Winston-Salem, N. C., heads the new selling agency, Hanes Associated Mills, New York, which also handles the product of Wilkes Hosiery Mills, North Wilkesboro, N. C. **A. T. Haefela,** is president, **J. N. Weeks,** vice-president, **E. B. Ferdinand,** treasurer, **Geo. A. Carlson,** secretary, and **P. W. Eshelman,** president and treasurer of the Wilkes company, is a director of the new selling association. The sales staff includes the following, giving their former associations: **J. C. Gunnin,** David Jacobs Corp.; **H. D. Webster,** Rufus W. Scott Co.; **Arthur E. Richter,** L. K. Vezin & Co.; **Robert T. Johnson,** Robbins Knitting Co.; **Leigh D. Bulluck,** Edw. Heathcote Co.; **Roy J. Tuthill,** Gus. Grissmann Co.; **Stephen M. GaNun,** National Association of Creditmen, and **H. B. Cumins,** who will be Pacific Coast representative.

William Meyer, president of the National Association of Hosiery and Underwear Manufacturers, and president of Apex Hosiery Mills, Philadelphia, is seriously ill at his home in Philadelphia, with pneumonia. Owing to his sickness, the meeting of the board of directors of the association, which has been deferred several times during the last few weeks, has been indefinitely postponed.

William L. Hayward, president of the Hayward Woolen Co., East Douglas, Mass., has purchased "Oakwald," the former Franklin home of his brother, the late Harry T. Hayward, head of the H. T. Hayward Co., Franklin, Mass., considered one of the finest residential properties in New England. Mr. Hayward plans to move his home to Franklin.

W. W. Neal, president and treasurer of the Marion (N. C.) Knitting Mill has gone to his winter home in Florida, to rest until about the first of the year, when it is hoped he can resume his activities.

W. C. Vereen, president of the Moultrie (Ga.) Cotton Mills, is recuperating from an eye operation, which was successful, at a Baltimore hospital, and expects to return soon to his home at Moultrie.

Daniel H. Conway, head of the Conway Knitting Mills, Oswego, N. Y., for many years and mayor of Oswego three times, was defeated for reelection on Nov. 4 by John H. Otis, manufacturer of heating apparatus.

Victor M. Montgomery, president of the Pacolet (S. C.) Mfg. Co. and executive in several other cotton mills near Spartanburg, owns a herd of Holstein cows which has been placed on the honor roll of dairy cows in South Carolina, by the State Extension Service at Clemson College. Each of these prize cows produced 50 or more pounds of butter-fat in a month.

B. Robbins, former proprietor of the Royal Ascot Knitting Mills, Philadelphia, and more recently Pacific Coast representative for the Philmont Knitting Mills, has resigned.

Dr. A. J. L. Moritz, vice-president in charge of plant operations of the American Enka Corp., Enka, N. C., sailed Nov. 6 on the "Statendam." He plans to spend most of his time in Holland and expects to be away for about a month.

Alfred Thomas, former secretary of the M. J. Whittall Associates, Ltd., Worcester, Mass., and Mrs. Thomas, sailed on the "Leviathan," Nov. 7, for their home in Farnham, England, after a vacation in this country in celebration of their 50th wedding anniversary. Mr. Thomas was given a veteran's medal in honor of his 50th year as a Mason while in Worcester.

E. Kent Swift, treasurer and general manager of the Whitin Machine Works, Whitinsville, Mass., has been elected a vice-president of the Whitinsville Savings Bank. **J. M. Lasell,** a director of the same corporation and a trustee of the bank retired from the board of investment of the same bank after 20 years of service.

George W. Pope, with the Whitman Mills, New Bedford, Mass., for 19 years —treasurer for the last two, has resigned to become manager of the office and

Textile Calendar

Silk Industry Week, Paterson, N. J., Nov. 14 to 21, 1931, including Silk Machinery Exposition, Nov. 14 to 21; National Silk Convention, Nov. 18 and 19; Paterson Silk Institute, Nov. 14.

Southern Textile Association, Spinners' Section (South Carolina), Fall Meeting, Franklin Hotel, Spartanburg, S. C., Nov. 20, 1931.

National Association of Woolen and Worsted Overseers, 48th Annual Meeting, American House, Boston, Mass., Nov. 21, 1931.

American Society of Mechanical Engineers, Textile Division, Annual Meeting, Engineers Club, New York, Dec. 2, 1931. (Also annual meeting of parent organization.)

Southern Textile Association, Weavers' Section, Fall Meeting, Greenville, S. C., Dec. 4, 1931.

American Association of Textile Chemists and Colorists, Annual Meeting, Hotel Statler, Boston, Mass., Dec. 4 and 5, 1931.

Cotton Manufacturers Association of North Carolina, Fall Meeting, Carolina Hotel, Pinehurst, N. C., Dec. 4 and 5, 1931.

Textile Forum, N.A.C.M., for overseers of spinning, Chamber of Commerce Bldg., Boston, Mass., Dec. 10, 1931.

Wool Blanket Manufacturers, Quarterly meeting, New York, Jan. 14, 1932.

Textile Forum, N.A.C.M., for master mechanics, Chamber of Commerce Bldg., Boston, Mass., Jan. 14, 1932.

Textile Forum, N.A.C.M., for overseers of warp preparation and weaving, Chamber of Commerce Bldg., Boston, Mass., Feb. 11, 1932.

Textile Forum, N.A.C.M., for overseers of dyeing, bleaching and cloth room, Chamber of Commerce Bldg., Boston, Mass., Mar. 10, 1932.

Knitting Arts Exhibition, 28th Annual Show, Commercial Museum, Philadelphia, April 11 to 15, 1932.

National Association of Hosiery and Underwear Manufacturers, Annual Meeting, Commercial Museum, Philadelphia, Pa., April 14, 1932.

Textile Forum, N.A.C.M., General Meeting for agents and superintendents, Chamber of Commerce Bldg., Boston, Mass., April or May, 1932. (Date to be set later.)

Second National Cotton Week, nation-wide promotional campaign, May 16 to 21, 1932.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

cost department of the Rossie Velvet Co., Mystic, Conn.

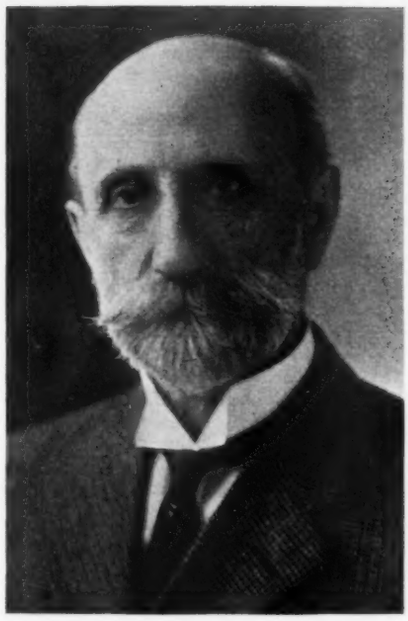
Alexander Storyk, of Storyk Bros., New York, returned this week on the "Ile de France" after having spent about four weeks in Europe.

Dr. Frederick A. J. Zeidler, Toronto, Ont., Canada, consulting chemical engineer, has been appointed to supervise the work of the research laboratory of Dominion Woolens & Worsteds, Toronto.

Dr. Chas. E. Mullin, on leave of absence from Clemson College (S. C.) Textile School, will address the North Carolina section of the American Chemical Society at Raleigh on Nov. 20. His subject will be "Chemistry in the Textile Industry." Dr. Mullin expects to sail for Japan from the West Coast shortly after Christmas, where he will do research work. He plans to be gone about six or eight months.

John H. Callen, with Strong Hewat & Co., Inc., North Adams, Mass., for six years, a large part of which time was devoted to the styling of the merchandise, and prior to that associated with Freneau & Nelson, has been appointed selling agent for the Crown and Chester Moses Mills, Marcellus, N. Y. Mr. Callen will take up his new duties Jan. 1, the change becoming effective at that time.

Miss Mari Floto, style advisor for the the Celanese Corp. of America, Chicago, for two years has resigned to go into business for herself. She will, however, handle all major promotions of the company from her office in the Midland Bldg., 176 West Adams St., Chicago. Her service will include merchandise promotion, sales service, and style advising.



Edward Moir, president of Crown Mills, Marcellus, N. Y., who recently observed his 85th birthday, as reported last week. He has been active in the wool industry for over 60 years

Edward D. Lamb, who is retiring from the position of general office manager of the American Thread Co., Holyoke, Mass., after 45 years' service, was given a testimonial dinner at Wiggins' Tavern, Northampton, Oct. 29. **Robert K. Clark,** agent of the company, on behalf of the employees, presented him with a purse of gold.

R. W. Stokes, in the cotton business in Charlotte, N. C., has joined the sales staff of Waterman, Currier & Co., yarn merchants, New York. He will work out of the Reading, Pa., office and be associated there with **E. L. Hicks,** who has been there for some time.

Ernest Rutledge, formerly boss spinner at the Holden Leonard Co., Bennington, Vt. has taken a similar position with the Ware (Mass.) Woolen Co. **W. L. Sjostrom** is dyer at the same company, succeeding **Thomas Costello.**

Harry Gurney has taken the place of **R. L. Jarvis** as carder at Kezar Falls (Me.) Woolen Co.

Patrick Fanning, who retired after 40 years of service about a year ago as overseer for the George H. Gilbert Mfg. Co., Gilbertville, Mass., and Mrs. Fanning, recently celebrated their 45th wedding anniversary.

Stanley Wade, formerly an overseer in the Perseverance Worsted Co., Woonsocket, R. I., which has gone out of business, has become overseer of dyeing at the Dunn Worsted Mills, Woonsocket.

Patrick Hanlon has accepted a position as first assistant to the overseer of finishing at the Burlington mill of the American Woolen Co., Winooski, Vt.

Harry Bassett, former overseer of weaving at the Wakefield (R. I.) Textile Co., Inc., has gone to the Coe Woolen Co., Worcester, Mass., as overseer of weaving and dressing.

B. D. Cornell, Ludlow, Vt., has accepted a position as overseer of carding with Henry D. Bailey Mill, Inc., Hope Valley, R. I., succeeding **Anthony A. Amelotte.**

Obituary

Charles W. Chears

Charles W. Chears, traffic manager emeritus, Cotton Manufacturers' Association of Georgia, Atlanta, Ga., died at his residence there Oct. 30. Mr. Chears was born at Monroe, N. C., and was 81 years of age. He established the traffic department of the Georgia association while living in Chattanooga, Tenn., but moved to Atlanta in 1923. He was traffic manager of the organization for 25 years and was elected traffic manager emeritus in May and voted a life-time pension.

Edward Buller

Edward Buller, 70 years of age, former head colorist for the Slater Co., Inc., Webster, Mass., died in Sutton, N. H., on Nov. 7. He was born in Littleboro, England, and lived in Webster for more than 36 years. He leaves a daughter and two sons. The funeral was held in Webster.

N. A. White

N. A. White, office manager, Tucapau (S. C.) Mills, died in the St. Agnes Hospital, Baltimore, Md., Oct. 29, following an operation. He had been in ill health for several months. Mr. White came to South Carolina from Utica, N. Y., about 17 years ago, and was connected with the Winnsboro (S. C.) Mills until seven years ago when he accepted a position with Tucapau Mills. He is survived by his widow and three children.

W. G. Whiting

W. G. Whiting, aged 44, an official of the Georgia Duck & Cordage Mills, Scottdale, Ga., died at his home in Avondale Estates. Funeral services were held at the Avondale Baptist Church.

A. M. Fraser

Alexander M. Fraser, of the firm of Fyans, Fraser & Blackway, dealers in textile machinery, died at his home in Fall River, Mass., last week.

Daniel M. Lashley

Daniel M. Lashley, aged 75, of Leaksville, N. C., a former superintendent of Spray Cotton Mills, and Morehead Cotton Mills Co., died from a heart attack Oct. 19 at his home.

William R. Dillmore

William R. Dillmore, for many years identified with the textile industry in Philadelphia, died suddenly Oct. 29 at 70 years of age. Mr. Dillmore was connected for many years with the cotton yarn trade. Prior to that he had been engaged in the hosiery business, and in the sale of hosiery machinery with National Automatic Knitting Machine Co. He retired from active business several years ago. He is survived by two sons, G. Earle Dillmore, associated with Standard-Coosa-Thatcher Co., Philadelphia office, and Russell Dillmore, formerly in the cotton yarn trade, but now in the insurance business.

James Skene Burnett

James Skene Burnett, retired, for 12 years overseer of the picker department of the Beoli Mills of the American Woolen Co., Fitchburg, Mass., where he was employed for 26 years, died Sept. 26, at the age of 59 years. He was born in England and came to this country more than 30 years ago. Upon his retirement a few years ago he moved to Middletown, Conn. He leaves a widow, two daughters and a son.

NEWS about MILLS

Cotton

Grosvenor-Dale Co., North Grosvenor Dale, Conn., has made a 10% wage reduction in its two mills effective on Nov. 9.

Pepperell Mfg. Co., Lindale, Ga. Work of replacing new spinning frames in Mill No. 3 is now progressing satisfactorily. The ones being replaced were installed in 1903; some of the new frames are already in operation.

Border City Mfg. Co., Fall River, Mass., is operating two of its units at close to full capacity, with regular working force, with a third mill unit on a part time basis. It is proposed to hold to this schedule for a number of weeks to come.

Merchants Mfg. Co., Fall River, Mass. The Crescent mill of the company is being dismantled. This unit includes about 40,000 spindles.

Stevens Mfg. Co., Fall River, Mass., has been acquired by the **Stevens Mfg. Corp.,** newly organized. Stockholders authorized the sale at a meeting Nov. 4. Under the reorganization plan the Stevens Mfg. Corp., will take over the Stevens Mfg. Co., probably within two weeks, and assume all liabilities. The new authorized capital is composed of 12,000 preferred shares $50 par value, and 16,000 shares of no par common stock. The preferred stock will be distributed among the old stockholders share for share, and 6,000 shares of common stock will be used for conversion.

Pacific Mills, Lawrence, Mass., have leased a large warehouse in Providence, R. I., to be used as a distributing station for the company's cotton goods.

Holmes Mfg. Co., New Bedford, Mass., closed since last April, has been purchased by Charles E. Brady, former treasurer of the Potomska Mill. He plans to install 500 up-to-date looms and turn the plant into a weaving mill. Announcement of the purchase was made following a meeting of the directors. A new corporation is to be organized by Mr. Brady, and operations are expected to be resumed early in the new year. Authorized capitalization of the new company will include 4,500 shares of 7% cumulative preferred stock of $100 par value, to be cumulative from Jan. 1, 1933, and 6,000 shares of common stock with a stated value of $5. The actual amounts issued will be 3,000 shares of preferred and 4,000 shares of common, giving a total capital of $320,000 at the beginning.

Slater Mills, Inc., Webster, Mass., posted notice on Nov. 4 of a 10% cut in wages for their 700 employees.

J. W. Sanders Cotton Mill, Inc., Starkville, Miss. Work is progressing rapidly on the new addition, 96x75 ft., which will house 132 extra looms, making a total of 292. The new looms will be in operation about Jan. 1.

Cannon Mills Co., Kannapolis, N. C., will plant 100 trees alongside the highways from that place.

**Indicates previous mention of project.*

Marion (N. C.) Mfg. Co., is building a warehouse 75x100 ft. of brick and wood construction to hold 1,200 bales of cotton. The mill is also installing 30 new model X Draper looms.

Williamson Mills Co., Charleston, S. C. Land, buildings and equipment will be sold a auction in front of the county court house at noon Nov. 24, to satisfy an outstanding first mortgage.

Borden Mills, Inc., Kingsport, Tenn., have adopted a night shift in addition to regular day schedule, giving employment to about 500 additional operatives.

Wool

American Woolen Co., has rented a part of the former **Lancaster Mills,** Clinton, Mass. Machinery is being installed and drawing-in will be the first process to start. Clinton girls formerly employed at those mills will be engaged. The Clinton Real Estate Trust owns the property.

Uswoco Mill, Lawrence, Mass., modern plant of the **U. S. Worsted Co.,** assessed for $122,350 was sold for $4,500 to Henry Wood, 215 East Gladstone St. East Boston, Mass. **Lawrence (Mass.) Dye Works,** assessed for $64,350, were sold to Louis Miller, 244 Atlantic Ave., Boston, for $1,400, at auction.

U. S. Worsted Co., Musketaquid Mill, Lowell, Mass., was sold to Albert F. French, box manufacturer of Lowell and Lawrence, Mass., for $5,500. The assessed valuation for the building is $36,400 and $2,800 for the land. The purchase included about 44,900 sq.ft. of floor space, and the water rights on the Concord River.

U. S. Worsted Co., Lowell, Mass. **Silesia Mills,** carrying a total assessed valuation of $214,385, were sold to the **Southwell Wool Combing Co.,** of North Chelmsford, Mass., for $22,300, as well as a lot containing a one-story frame storehouse and some sheds for $1,000.

Rochdale (Mass.) Mills, American Woolen Co., are replacing some of their old looms with automatics to speed up production.

Novelty Rug Co., Inc., Palmer, Mass., recently incorporated, has leased several thousand feet of floor space in a former plant of the Thorndike Co., in Thorndike, and has already started making up samples. The company has purchased the **American Rug Co.,** which previously carried on the business there. A dozen looms have been installed.

Webster (Mass.) Mills, of the **American Woolen Co.,** have awarded a general contract to Chester S. Patten, for a brick and concrete power plant addition 54x56 ft., 31 ft. high. C. O. Ware, company engineer, drew the plans.

Baltic Mill, Enfield, N. H., of the **American Woolen Co.,** was reopened this week after having been closed for five years. Edgar C. Hirst, secretary of the New Hampshire State Tax Commission, stated that the tax rate at Enfield had been reduced every year and that this fact had no doubt influenced the officials of the company.

***Brighton Worsted Co.,** Philadelphia. The affairs of the mill have been placed in the hands of equity receivers in order to protect its assets. This action followed a friendly suit, as a result of which the court appointed Edward H. Moyer, James Hulton, Jr., and Benjamin T. Britt as receivers, with authority to continue the business until further order of the Court. As reported in last week's issue, this company is consolidating with the **Cambridge Mills.**

Knit

Paterson (N. J.) Mutual Hosiery Mills, Inc. J. Ernest Meili and Edward T. Moore have been appointed receivers of the company upon application of Hugo Huettig, treasurer.

Charlotte (N. C.) Knitting Co. has been sold to Walter Lambeth. This was the Charlotte plant of the **Rock Hill (S. C.) Hosiery Co.,** and was operated under lease by Charles L. Okey, as president, who is also treasurer of the Rock Hill company.

Hudson Silk Hosiery Co., Inc., Charlotte, N. C., has plans for a two-story addition, 140x132 ft.

***McPar Hosiery Mill,** Marion, N. C., has been incorporated with an authorized capital stock of $100,000. C. R. McCall was elected president, L. Reid, vice-president, and E. W. Parker, secretary and treasurer at a recent meeting of the stockholders.

***Gold Seal Hosiery Mills, Inc.,** Philadelphia and South Langhorne, Pa. The action by which David S. Ludlum was appointed temporary receiver has been vacated by order of Judge Wm. H. Kirkpatrick, as the result of a settlement. Harry West, president of the mills has been returned to active management. The suit brought by Thomas F. Frawley and H. M. Gwyn, receivers

of the United States Silk Hosiery Mills, was dismissed.

French Broad (Tenn.) Knitting Mills, formerly known as the **Burnett Knitting Mills,** are being operated by C. A. Ricks who purchased the plant early this year.

Walter Fred Hosiery Mills, Inc., Nashville, Tenn., are installing 12 new 45-gauge Lieberknecht machines with full lace attachments and 24-section leggers and footers. T. Walter Fred, president, expects that more machines of a finer gauge will be needed the first of the year.

Martz Knitting Co., Manitowoc, Wis. The equipment was disposed of at a bankruptcy sale, bringing $6,586, although the book value on it was given in excess of $300,000. The three-story factory building was not included. It is listed at $40,000 on the inventory of the company. This concern, formerly the **Wisconsin Knitting Co.,** was started approximately 25 years ago.

Luxknit Sweater Mills, Inc., Milwaukee, Wis., have discontinued their manufacturing and will confine their activities to jobbing. The machinery has been sold to various Eastern concerns. This stand terminates a record of 16 years in the manufacturing and jobbing business. After Jan. 1, jobbing will be handled from the downtown office in Milwaukee.

Milwaukee, Wis. Knitting mills in that city are keeping busy with the following number of operatives. **Reliable Knitting Works** is operating over time with a crew of 75 workers, according to Armin Rosenberg, president. **Milwaukee Hosiery Co.** has been increasing its force gradually and is now using between 250 and 300 hands. **Holeproof Hosiery Co.** is hiring a total of 1,700 employees as compared to 1,800 last year at this time. **Eagle Knitting Mills** have put an additional 175 workers on the payroll recently, and the **National Knitting Co.** is operating, in conjunction with the **Bradley Knitting Co.** at Delavan, Wis., with a quota of 900.

**Indicates previous mention of project.*

Silk

M. E. Binz Co., Midland Park, N. J., has taken a part of the plant of Machine Agricole Co., Montmagny, Que., Canada, for the manufacture of silk and rayon goods.

Lehigh Valley Silk Mills, Williamsburg, Pa., have resumed operations at their local mill, following a shutdown for the last four months. Over 90% of the normal working force has been reinstated, and the plant is scheduled to run on a full capacity basis for some time to come.

Rayon

Industrial Rayon Corp., Cleveland, Ohio, has decreased production at its mills at Covington, Va., and Cleveland, about 20%, cutting down working hours about one-fifth and maintaining a full working force on the reduced time.

Finishing

Southbridge (Mass.) Finishing Co., has made a 10% wage reduction effective Nov. 9.

Slater Co., Inc., Webster, Mass., resumed full time activities on Nov. 4 on an open shop basis after a week of labor troubles due to a wage adjustment. Employees have decided to accept the wage cut and return to work.

Rockland Finishing Co. of America, Inc., Paterson, N. J., has been organized under state laws with a capital of 1,000 shares of stock, no par value, to operate a textile finishing mill. The company will be represented by James J. Rose, 126 Market St., Paterson, an attorney.

Franklin Rayon Co., Providence, R. I., has awarded general contract to the Smiley Construction Co., Pawtucket, for a one-story addition, 35x35 ft., to be equipped as a boiler plant.

Miscellaneous

Ford Motor Co., Dearborn, Mich., has work under way on a new mill at Ypsilanti, Mich., and is reported planning to equip it for the manufacture of upholstery for automobiles. The estimated cost will be over $100,000 with machinery. A hydro-electric power plant is also in the course of construction. Albert Kahn, Inc., Detroit, Mich., is the architect and engineer in charge of the project.

TEXTILE WORLD Cotton and Wool Index Numbers

WOOL INDEX NUMBERS

Date	Wool	Tops	Yarns	Cloth	Group Aver.
July 31, 1914	100	100	100	100	100
1925					
January	215	213	211	229	221
April	219	234	230	241	235
July	216	217	216	239	227
October	216	212	212	227	220
1926					
January	215	213	211	229	221
April	181	193	198	211	202
July	173	184	189	202	193
October	178	186	193	197	192
1927					
January	178	187	190	197	191
April	177	182	184	193	188
July	180	183	183	193	188
October	185	185	189	194	190
1928					
January	194	193	186	195	192
April	199	206	198	198	199
July	204	206	203	197	200
October	197	197	203	198	199
1929					
January	199	198	201	198	199
April	187	189	198	197	195
July	169	170	188	197	188
October	164½	169	188	197	187
1930					
January	148	161	177	197	181
April	127	139	164	186	167
July	125	135	158	184	163
October	124	135	154	180	161
1931					
January	112	127	148	178	156
February	106	122	143	178	153
March	101	112	139	174	147
April	101	112	134	167	143
May	100	111	134	162	140
June	97	110	134	162	140
July	98	111	134	162	140
August	99	111	130	153	136
September	99	110	127	153	134
October	97	108	127	149	132

ALTHOUGH the cotton average of 50 for October showed a three point loss as compared with September, the raw material displayed greater rebound during the month than it has in any previous month this year. The low for October was 46, touched in the first week; in the second week the index advanced two points to 48, in the third week four points to 52, and at the close of the month stood at 54, which was 4 points above the last week of September.

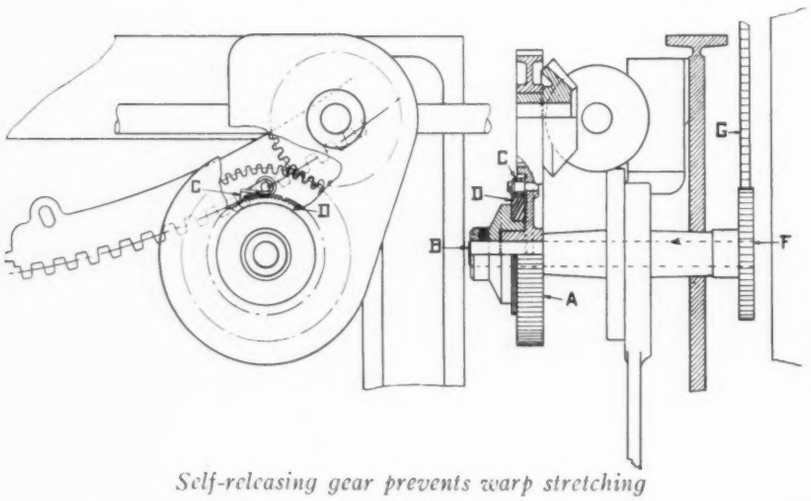
The trend of the yarn index was somewhat similar, declining to a new low of 82 early in the month and then reacting two points to 84, at which point it showed no change from the fourth week of September. Gray goods were the weakest link in the cotton group, moving off to 75 in the closing week for a loss of 4 points as compared with the same week of the previous month.

Wool prices fell off during October, and our raw wool index at 97 was two points below the September average. Tops were affected sympathetically, the October average being 108, as compared with 110 for September. Worsted yarns were unchanged at 127, at which level they have held steady for the last ten weeks. The cloth index at 149 showed a drop of 4 points.

COTTON INDEX NUMBERS

Date	Cotton	Yarns	Gray Goods	Colored Goods	Aver. for Cloths	Group Average
July 31, 1914	100	100	100	100	100	100
1925						
January	192	197	195	173	184	187
April	196	194	193	180	187	188
July	197	183	185	176	181	182
October	174	189	193	178	186	186
1926						
January	167	175	177	162	170	171
April	153	163	161	155	158	159
July	149	149	151	141	146	147
October	106	141	147	144	146	143
1927						
January	107	134	140	140	140	138
April	118	136	143	142	143	140
July	143	149	156	145	151	150
October	168	176	184	169	176	176
1928						
January	151	163	166	166	166	165
April	164	160	160	165	162½	162
July	174	167	165	168	166½	167
October	157	161	162	164	163	162
1929						
January	162	166	158	169	163½	164
April	163½	164	157	173	165	165
July	149	160	149	166	158	158
October	147	160½	155	161	158	158
1930						
January	138	149	141	157	149	149
April	131	139	129	156	143	142
July	105	120	119	142	130	128
October	85	110	115	125	120	117
1931						
January	82	102	107	124	115	112
February	88	104	106	124	115	112
March	87	102	109	125	117	113
April	82	100	106	125	116	111
May	75	98	99	125	112	108
June	72	94	95	122	109	104
July	75	97	97	120	109	105
August	58	90	87	115	101	98
September	53	85	81	113	97	94
October	50	84	76	112	94	90

New Machinery *and* Processes



Self-releasing gear prevents warp stretching

Self-Releasing Gear for Slashers

TO ELIMINATE warp yarn stretch and improve weaving qualities, Saco-Lowell Shops, 147 Milk St., Boston, Mass., have developed a self-releasing gear for slashers.

In conducting some investigations on slashers, it was found that at times there was a tendency for the speed of the yarn to increase to an amount equivalent to a fraction of a tooth on the gear drive. When this condition arose, the yarn had a tendency to drag the cylinders; but this, of course, was resisted by the positive nature of the gear drive. This built up a considerable stress in the warp, which resulted in damage to the yarn and sometimes to the gearing.

It was this situation which stimulated the company to develop the present device, the essential feature of which is a pawl and ratchet attachment. When this self-releasing contrivance is installed on a slasher, the cylinders will be driven through the usual gear drive by means of the pawl and ratchet. As soon, however, as there is any tendency for the yarn to drag the cylinder, the latter will be free to rotate independently of the gear drive, since the pawl will merely slip over the teeth of the ratchet.

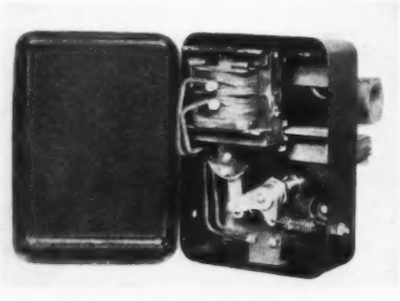
It is pointed out that the value of this device lies in the fact that maximum elasticity, essential in weaving, is retained in the yarn. The manufacturer states that actual mill tests indicate that the use of this attachment has reduced the percentage of warp stretch during slashing from 2.37% to .13%.

Solenoid-Operated Valve

FOR controlling the flow of liquids and gases under pressure, a new solenoid-operated valve has been developed by General Electric Co., Schenectady, N. Y.

The gland connected to the operating mechanism is of the rotary type, which reduces the friction load. The seat and poppet are ground to fit, and only materials suitable for the liquid or gas that is being controlled are used. The material is distributed so that a wide seat is obtained, the object being to insure long life and reliable operation.

The valves are of the unbalanced type and require little power for operation. A standard solenoid is used. The operating mechanism is permitted to accelerate without load for a fraction of a stroke, facilitating quick, reliable movement. It is stated that the coils are designed for continuous duty, and the solenoids are selected so that there is ample power for operation.

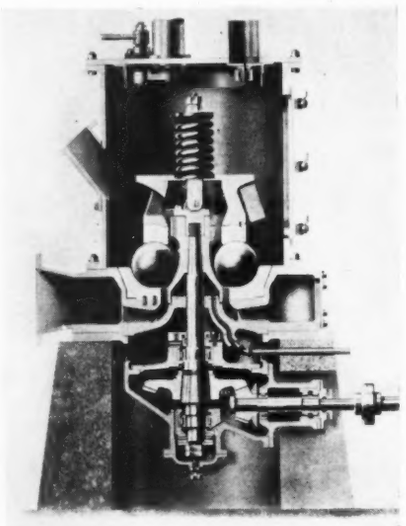


Valve for controlling flow of liquids and gases

Coal-Pulverizing Mill

FOR use in small and medium-sized industrial plants, Fuller Lehigh Co., 85 Liberty St., New York, has developed what is known as their type C coal-pulverizing mill. The design of this mill includes the ball and grinding ring principle of pulverizing.

This is said to be a desirable feature in mills of small capacity because, by its use, fineness of the pulverized coal is not affected by wear of the grinding parts. The coal is pulverized by large diameter balls grinding under pressure between upper and lower grinding rings. The pressure between the grinding parts is applied and maintained by a heavy steel spring mounted in the top section of the mill.



Ball and grinding ring type coal-pulverizer for small industrial plants

This machine is also suited for pulverizing coals of different degrees of hardness, since the grinding pressure can be adjusted to suit this property of the coal. It is stated that the balls in the type C pulverizer wear spherically and uniformly and, together with the grinding rings, have long life, since these parts are resistant to abrasion and have no metal-to-metal contact.

Wet coal can be pulverized when preheated air is used for separation of the "fines." Since the coal is dried by the hot air as it flows through the mill, it is unnecessary to install separate drying equipment for this purpose.

This pulverizing mill runs at a constant speed, and it is stated that only a few adjustments are necessary whenever the steam capacity of a boiler is changed. A change in capacity is made by simply varying the rate of the coal feed to the mill.

Raw coal, crushed to pass through a ¾-in. ring, is fed to the mill from an overhead bunker by means of a table-type feeder. The coal, after entering the mill through the coal-inlet spout, drops into the path of the grinding balls where it is pulverized.

Welding Goggles

A NEW type of welder's goggles, known as Oxweld No. 12, has been developed by Linde Air Products Co., 30 E. 42nd St., New York. The manufacturer states that several new features have been incorporated in this safety appliance.

Adjustable goggles insure comfort to wearer

It is said that absolute comfort is assured, since they are designed to fit the eyes and are adjustable to conform to the individual nose. The eye pieces are joined with a leather strap, adjusted by means of a metal buckle, so that they may be correctly spaced to the width of the face.

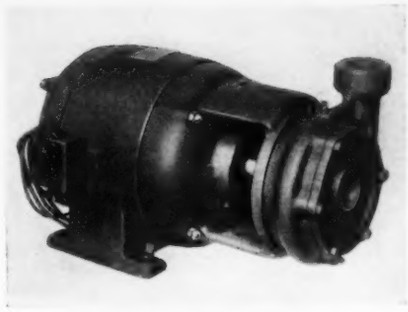
Ventilation is provided by ports on each side of the eye cups, so constructed that it is impossible for sparks or light to reach the inside of the cup. The field of vision has been increased by the use of 50mm.-diameter lenses.

Lenses may be secured in either brown or green color and may be easily replaced by removing the metal cups, which unscrew from the frames of the eye pieces.

The material from which these goggles are made consists of a molded substance known as Oxweldite, which is formed over a fabric base and is said to be resistant to heat, light, and electric current.

Diesel Engine

A NEW stationary Diesel engine known as type JT is announced by Cooper-Bessemer Corp., Mt. Vernon, Ohio. Although fuel economy, trim lines, enclosure, accessibility, and option of built-in accessories are emphasized points, the most noticeable inovation is the placing of the spray valves and driving levers in a position directly below the camshaft where they are easily reached from the engine platform. Removal of the engine head can thus be accomplished without disturbing the fuel injection system.



Centrifugal pumping unit is bolted to motor frame

The bore is 11.5 in. and stroke, 15 in. Cylinders are three, four, six, or eight in number. Rated horsepowers are 150-180, 200-240, 300-360, 400-480, when operating within the speed range of 300-360 r.p.m., with cast-iron pistons.

Shock Absorber for Pressure Gage

TO FACILITATE the reading of pressure gages, Meriam Co., 1955 West 112th St., Cleveland, have developed a new shock absorber applicable to these instruments. The manufacturer states that the device is simple, yet effective in eliminating the unsteady reading so often encountered where pressure or vacuum gages are connected to pipe lines carrying liquids or gases having a pulsating flow. It is pointed out that the pulsation is particularly objectionable where the liquid sets up "hammer" action.

Shock absorbing device prevents jumping of gage needles

When the pulsation absorber is inserted, the pressure from the line is forced to reach the gage through fine tubing within the compressor air chamber of the gage. It is stated that this "air receiver" action, combined with the friction of the fluid in the tubing, absorbs the fluctuations from the gage line-pressure and gives the true reading. There are no moving parts in this instrument, and all joints are welded to prevent leakage.

Pumping Unit

A CENTRIFUGAL pump designed to insure good service with but little care and attention is announced by Worthington Pump and Machinery Corp., Harrison, N. J. This unit is bolted to the extended motor frame, and the impeller is mounted on the end of the motor shaft.

The bronze impeller incorporates the shaft sleeve as an integral part, the purpose of this construction being to offer protection to the shaft. The cadmium-plated steel locking device for the impeller, the forged bronze packing gland, and the arrangement of shaft water-throwers are other important features of this pump. The manufacturer states that good efficiency at low initial cost and low maintenance cost should make this a popular model.

Unit Ventilator

DEVELOPMENT of a new unit ventilator designed to admit 50% out-of-door air and to recirculate 50% of the indoor air is announced by B. F. Sturtevant Co., Hyde Park, Boston, Mass. It is intended for use in any room where comparatively large groups of people congregate.

Features stressed by the manufacturer are a new standard of quietness, partial recirculation for greater economy in operation, self-contained automatic temperature control, reduced size with ample capacity, and new arrangements for wider application. The parts are housed in a furniture steel cabinet, which is usually placed beneath a window against an exterior wall. In passing through the unit, the air is cleaned and, in cold weather, heated to the proper temperature.

Temperature control may be secured by an automatic, self-contained thermostatic device or may be arranged for control by a room thermostat or by hand.

Ventilator operates on 50-50 basis

Questions... *and* Answers

Gore Holes in Circular Stocking

Technical Editor:

Under separate cover we are sending you a stocking foot made on the Scott & Williams model B-3, and we wish you would inspect the knitting. We are having trouble in making the heel and toe. On one side of the gore a few needles will drop on every foot we knit. We made different adjustments on the machine but it seems to us that we can't remedy this imperfection. The other side of the gore is working perfectly.
(7702)

We have examined the sample of work made on the model B-3 machine and find gore holes in both the heel and toe. The fabric in these portions is irregular. The courses are formed alternately long and short, showing that the stitch cams are not ground properly. If the producer of this work will examine his machines, he will probably find that the left-hand stitch cam has become worn at the point. It is on this cam that the short course and holes are being made. The best method of correcting the difficulty is to replace both stitch cams with new ones. Additional service may, however, be secured from the old ones by properly grinding and hardening them.

Both the right and left cams should be ground to the same angle and brought to a sharp point. A round-pointed cam puts unnecessary strain on the stitch and is certain to cause gore holes. After the cams have been properly pointed, they should be ground slightly concave near the point. This concave surface, extending about one fourth of an inch from the point of the cam, relieves the needle and stitch of considerable strain in knitting and lessens the number of gore holes in the heel and toe.

The sinker-cap bumper screws should be adjusted so that the sinker covers the rising needle completely when the hook of the needle reaches a point level with the underneath side of the sinker hook. The sinker cams should be inspected and ground to bring the sinkers in at a fairly sharp angle. A sinker cam with too much slope puts additional strain on the yarn and contributes to gore holes.

The heel and toe yarns in this hose are single ply with slightly more twist than is required in a hosiery yarn. This makes the yarn more difficult to manipulate by the needles and contributes to the formation of gore holes on the side counter to the twist. Hosiery yarns should possess balanced twist. If the knitter who submitted this work will grasp the yarn with both hands about six inches apart and then bring the hands together he will find that the loop so formed readily twists up. This shows that the yarn possesses too much twist. The fact that the sock on coming from the machine is twisted is further evidence of the presence of too much twist. We recommend that the knitter first condition the yarn by steaming to set the twist. If this is correctly done and the correction of the mechanical condition properly looked after, there should be little difficulty in turning out a high percentage of perfect work on these machines.

▼

Streaks in Carbonized Fabric

Technical Editor:

In piece dyeing carbonized goods, we are having trouble getting an even, level shade. The dyed fabric has a smeared or streaky appearance. The stock used in this fabric is scoured white fleece, 15%; stripped blanket-mill waste, 50%; and No. 1 white paper-maker's felts, 35%.

The goods are first fulled to weight, thoroughly washed and rinsed, and saturated with an 8° Bé. solution of sulfuric acid. The excess acid solution is then extracted and the goods are run through the oven or dryer until carbonized. After carbonizing, the vegetable matter is removed by dry fulling; and the goods are thoroughly washed, rinsed, neutralized, and dyed.

In covering the bolt heads on the inside of the saturating tank we used plastic wood. Is there a possibility that the acid solution has absorbed something from this plastic wood and contaminated the cloth? Would not the dye go on very unevenly in case the goods were not thoroughly neutralized?
(7683)

There are several possible causes for the trouble mentioned, and it would be necessary to inspect a number of pieces on the perch to get a correct idea of the nature of the clouds and streaks. In the first place, let us consider the stock mixture; the fleece and the blanket-mill waste should give no difficulty, but a paper-mill felt contains aluminum sulfate and rosin soaps. These impurities will not be noticed until the carbonizing acid re-dissolves the aluminum salts and re-deposits them on the pure wool fibers, more or less irregularly, where they may give rise to irregularities in the dyeing.

In the carbonizing process it is essential that the goods be extracted so well that there is not the slightest tendency for the liquid to seep from place to place on the partly dried goods. If there is an excessive amount of liquid in one place, it will alter the affinity of the wool for the dye, whether neutralized later or not. In the dryer, the current of hot air must be directed uniformly on the full width of the goods from below. If the air comes in from one side, it will first dry the fabric on that side, capillary action will carry over more acid liquor, which will also dry over the other, and so on until all the acid has been dried. After neutralizing, the dyer may use the most level-dyeing colors known, but the goods will be shaded from one selvage to the other.

In scouring, take care to avoid the formation of lime soaps or aluminum soaps by the use of plenty of trisodium-phosphate in both soap and rinse waters, as the presence of deposits of metallic soaps in the goods will surely cause clouds and streaks.

In dyeing, be careful to use dyes which level easily or may be boiled even. Some dyes will give a solid shade on the mixture of wool you are using, while there are others which will give the fabric a mixed appearance.

Plastic wood is simply wood meal made into a paste with some collodion and solvent; and when once set, is not soluble in acid liquors. Some may be rubbed off as powder, but this can be detected quite easily.

Finally, note by looking through the cloth whether the fulling has been regular and even, and whether the nap is even all over the piece; sometimes a re-napping and shearing will do wonders for a piece of woolen goods which is cloudy.

Answering the last question, we may say that if the acid were not well neutralized, the dye would jump on very quickly. The result would be shading from end to end, as well as across the piece, and the penetration would be very poor.

If you will go over your operations with these points in mind, there is little doubt that you will be able to discover which condition is at the bottom of your troubles.

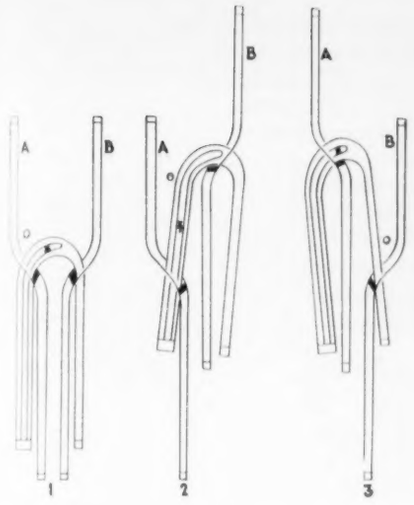


Fig. 1

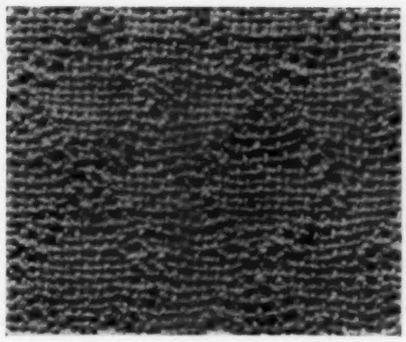


Fig. 2

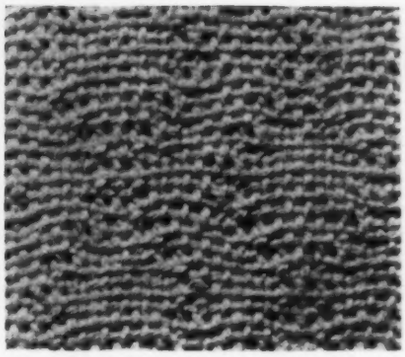


Fig. 3

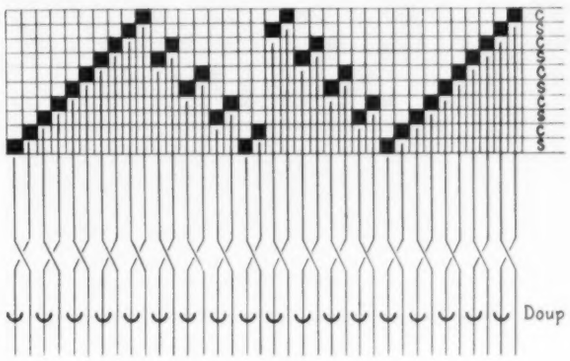


Fig. 4

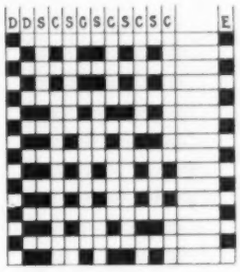


Fig. 5

Use of Super Doup in Leno Weaving

Technical Editor:

In TEXTILE WORLD *of Aug. 29, there appeared an article entitled "Cotton Shoe Fabrics." This was illustrated with cuts of several fabrics, two of which were lenos. The article stated that these leno fabrics could be made on one set of doups by using the super doup. Will you have an explanation published as to how this can be done, as we are making a fabric similar to Fig. 6 in the article but are using five sets of doups. (7718)*

One of the well-known and generally accepted rules in making a leno fabric is that "crossing threads which weave differently from each other require a separate set of doups." An examination of the fabric given in the article on cotton shoe fabrics and marked Fig. 6 shows clearly that there are five leno threads weaving differently from each other; so that, under this rule, five sets of doups will be required.

There is, however, an exception to the general rule, which is as follows: "If all the crossing threads are raised on the same pick throughout the repeat of the pattern, the design can generally be made on one set of doups." A further examination of this fabric will show that on every alternate pick, every crossing thread is raised; therefore it is simply a question as to whether leno and plain can be made at the same time on one set of doups.

When made on five sets of doups, the arrangement of harness in loom and dobby can be as follows: Five sets of doups require ten harness levers in dobby; five standard harnesses require five harness levers in dobby; five easer rods require five harness levers in dobby. The crossing threads pass under a rod behind the harness and are drawn straight through the doups, so that no harness shafts are required. One crossing thread passes under one standard thread.

To make the pattern with one set of doups, the super doup is used. A sketch illustrating this doup is given at Fig. 1. The complete doup consists of two heddles marked *A* and *B*. The doup straddles these two heddles. One side of the doup has a slot in it. Two harness shafts are used in connection with this doup heddle—one a crossing harness for the crossing thread, the other a standard harness for the standard or ground thread. The crossing thread is drawn through the crossing harness and the upper end of the slot, and the standard thread is drawn through the standard harness and over the top of the doup. The crossing thread is shown in sketch at *x* and the standard thread, at *o*.

Fig. 1 illustrates the three positions of the doup, No. 1 being the original position. No. 3 shows the first harness *A* raised, lifting every crossing thread to the left-hand side of the standard threads. In position No. 2 the second harness is raised, which action simply lifts the doup and does not raise any threads. The raising of the threads is accomplished by lifting either the crossing harness or the standard harness. When the crossing harness is raised, the crossing thread is lifted on the opposite side of the standard thread from the crossed pick and makes the leno weave; but when the standard or ground thread is lifted, plain weave is made.

Keeping in mind that every alternate pick is a crossed pick, an analysis of the weave is as follows: Leno, first pick crossed—raise first doup-harness and easer; second pick open—raise second doup and crossing harness. Plain, first pick crossed—raise first doup and harness easer; second pick open—raise second doup and standard harness. Under this method of weaving the fabric, the plain weave would be on an odd number of picks, beginning and ending with a crossed pick.

Fig. 2 illustrates the original fabric made on five sets of doups. Fig. 3 illustrates a fabric made with the same weave on one set of doups, but using coarser yarn to show the weave more clearly. Fig. 4 is the drawing-in draft and Fig. 5 the chain plan for making the fabric on one set of doups.

In such patterns as these, there is an advantage in using one set of doups, as only one easer rod is required; whereas with five sets of doups, five easer rods have to be used.

If there should be too many doup heddles on one set, they could be divided and put on two sets, having both sets weave the same but using only one easer rod.

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.

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TEXTILE WORLD ANALYST

Wool, Firm in Statistics, Must Weaken if Consumption Declines

By Dr. L. H. Haney

SUMMARY

Stronger tone in foreign raw wool markets and increased activity in wool manufacturing in England have tended to increase confidence in domestic values, even though buying is dull and mill consumption is slackening in the United States. Strike conditions intensify the dullness in raw wool markets, but stocks are firmly held and concessions in price are strongly resisted. Further declines in mill consumption will tend to cause easy raw wool prices. Maladjustments in yarn and cloth production have been reduced, but prices are likely to show still further moderate concessions.

THE wool industry experienced a number of conflicting trends during the month of October. In the first place, raw wool markets were dull and easy in the United States, while advances were recorded in Australia and South America. The latter market is said to be above parity with the United States. Perhaps trade reports have overemphasized the strength in closing prices at the London auctions as compared with the opening prices. These opening prices had declined 10 to 15% on a gold basis. It is nevertheless true that, even after allowing for exchange depreciation, Bradford top prices were higher in October than in September, as a result of greater activity in English wool manufacturing. The decline in top prices in Continental European countries suggests that increased activity in England may have taken place at the expense of the countries which remain on a gold basis.

Manufacturing activity in this country, as in the case of the raw wool markets, declined as contrasted with gains in English manufacturing. The August decline continued into September, when it was intensified by strikes. While reduction of operations has gone ahead rather abruptly, and temporary upswings may be therefore expected in the indexes of mill activity, it seems probable that we are experiencing a cyclical downswing in the wool industry.

Favorable Factors

The factors which tend to support the price of raw wool follow:

1. The fifth series of auctions at London closed steady, with prices at or above opening levels (on a gold basis). The period was extended three days.
2. Foreign primary markets have been firm and have fully discounted the fall in exchange rates. Most foreign wools are believed to be above parity with similar grades of domestic wool.
3. The New Zealand clip will probably be about 4% smaller than last season.
4. Stocks of foreign wool in the United States are small. Imports have been smaller than last season.
5. Mill stocks of raw wool in the United States are believed to be small, and dealers' supplies of certain grades may be none too large to fill the demand before the new clip is available.
6. Stocks of tops in Continental commission combing establishments declined during September.
7. Bradford top prices were stronger in October; part of this improvement followed the rise in raw wool prices in Australia, and more than offset the decline in sterling exchange.
8. English mill consumption increased in September and reports indicate greater activity during October.
9. Strike conditions make for a scanty supply situation in new lightweight yarn and goods.
10. Wholesale dry goods sales improved more than usual in September.
11. Tendency toward stability in general commodity prices.

Unfavorable Factors

The factors which tend to depress the price of raw wool follow:

1. The Argentina clip is estimated to be fully as large as the clip shorn there during last year. Production in the five leading wool producing countries is estimated at 6% increase over last season.
2. Stocks in selling centers in southern-hemisphere countries are estimated to be above a year ago.
3. Importers believe some American grade wools are on an importing basis.
4. Stocks of wool in the United States on Oct. 15 were 189,670,000 lb.
5. Consumption by domestic mills declined more than usual in September. Machinery activity in all branches suffered more than the usual seasonal decline.
6. Stocks of tops in Continental commission combing establishments on Oct. 1 were still over 8,000,000 lb. greater than last year.
7. Bradford yarn prices have not advanced as much in proportion as raw wool or top prices.
8. Much price cutting of men's-wear goods. Retail demand retarded by business recession, unseasonable weather, and slow collections.
9. Manufacturers' replacement margins touched a new low in September and probably again in October.
10. Unsettled financial conditions of a world-wide nature retard business recovery.
11. The Lawrence strike has slowed up a large portion of the domestic industry.
12. Low prices of cotton and silk tend to curtail demand for wool.

Not much change has occurred in the basic supply-and-demand factors affecting the price of raw wool. Domestic manufacturing activity continued on the downgrade in September, while the Lawrence strike will probably tend to cause a poor showing for October. There was a spurt in mill activity in Great Britain in September and October, but this was largely stimulated by the fall in sterling exchange. World supply conditions are easy. Raw wool prices are only slightly firmer abroad, and easier in this country. Curtailment of production, which has been caused by strike conditions, is likely to help restore more quickly a normal equilibrium between supply and demand of domestic wool manufacturers, but, while it lasts, easier raw wool prices may be looked for.

Statistical Position

The Textile World index of raw wool prices during October declined to about 52.0% of the average for 1921-28. This compares with 52.2% in Septem-

The analysis and forecast by Dr. Lewis H. Haney, Director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

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ber and 65.4% a year ago. The October average was above the low of the year, due chiefly to the relatively firmer position of medium wools.

The seasonally adjusted index of average daily mill consumption of raw wool fell during September to the lowest point since March. The trend now appears to be definitely downward, and domestic wool markets have an easier tone.

Imports and receipts, however, have been low compared with mill consumption. Stocks, therefore, should not be increasing. The latest inventory (covering stocks of unsold wool on hand in Boston, Philadelphia, Chicago, Louisville, and St. Louis, and in the hands of the National Wool Marketing Corp. as of Oct. 15) indicated that 189,670,063 lb. were on hand. The most nearly comparable figure is the total of combing and clothing wool stocks on hand and afloat to the United States on March 31, 1930. This total was 119,320,804 lb. and probably included many items which were omitted from the latest report. It is, therefore, obvious that stocks of raw wool (excluding carpet grades) are considerably larger now than when last reported. One qualification, however, must be made. Seasonal considerations would require a larger stock in October than in March, and therefore the showing is not as unfavorable as it might seem at first glance.

The supply of wool in this country is, on the whole, adequate and with a decline in wool mill activity is likely to produce further ease in raw wool prices.

Yarn Prices Irregular

The Textile World index of worsted yarn prices was unchanged in October at 62.6% of the average for 1921-28. A year ago the index was 75.9%. The decline in raw wool prices in October, together with the stability of yarn prices, brought a halt to the decline in the spinners' replacement margin.

Apparently a better balance between spindle activity and loom activity has been struck. The maladjustment of June and July was eliminated in August and September. We do not feel, however, that there will be an uptrend in the spinners' replacement margin just yet, unless strike conditions should bring a curtailment of yarn production to such an extent that weavers would find supplies restricted, which seems unlikely. It is probable that yarn prices will decline, following the ease in raw wool prices. However, it must be remembered that yarn prices declined while raw wool was still advancing, and that further declines should, therefore, be moderate.

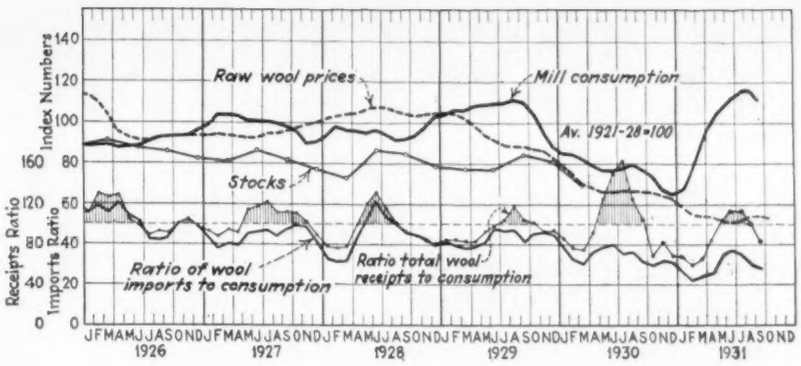
Cloth Prices Weak

The September index of the Bureau of Labor Statistics woolen and worsted goods prices was 72.5% of the average for 1921-28. This represented a decline from the August figure, 74.3%, and from 83.5% a year ago. Trade reports indicate that there have been further cuts in recent weeks in new goods made for order. Men's wear goods have suffered. Probably the October index will register another decline.

As a result of the ease in finished goods prices, the replacement margins of manufacturers have fallen to another new low level for recent years. The sharp curtailment of machinery activity which has taken place since the July peak, however, has tended to make the decline in the margin more gradual. While curtailment tends to lessen the supply of wool textiles and to decrease the price of raw wool, it is not likely that the October decline in raw wool prices was sufficient to compensate for the decline in wool goods prices.

World financial unsettlement, continued business recession, low purchasing power, and unusually mild weather have all tended to slow up the buying of wool goods. Credit conditions tend to keep forward buying at a minimum. There does not appear to be any early relief in sight and cloth prices will probably suffer further declines.

Hope for improvement, however, is not entirely absent. It is not likely that curtailment of activity will long proceed at the pace of recent months. An advance in our index of wholesale dry goods sales in September suggests that better textile demand in general may be experienced. Finally, the rise in general commodity prices in October, raises hopes for stability in the general price level instead of the almost uninterrupted recession of the last two years.


Index Numbers
Raw wool prices
Mill consumption
Av. 1921-28=100
Stocks
Receipts Ratio
Imports Ratio
Ratio of wool imports to consumption
Ratio total wool receipts to consumption
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1926
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Fig. 1. RAW WOOL BAROMETER:

Price — Textile World Index; Mill Consumption — Grease equivalent, average daily adjusted for seasonal variation, three-month moving average; Stocks—U. S. Total, grease equivalent, end of quarter, adjusted for seasonal variation. Ratio of Total Raw Wool Receipts in the U. S. to Mill Consumption—Receipts not reduced to grease equivalent, adjusted for seasonal variation. Consumption as above, three-month moving average. Average for 1921-1928 = 100 for all four indexes. Ratio of Raw Wool Imports to Mill Consumption—Imports not reduced to grease equivalent, adjusted for seasonal variation. Consumption as above, Average 1921-1928 = 50, three-month moving average.

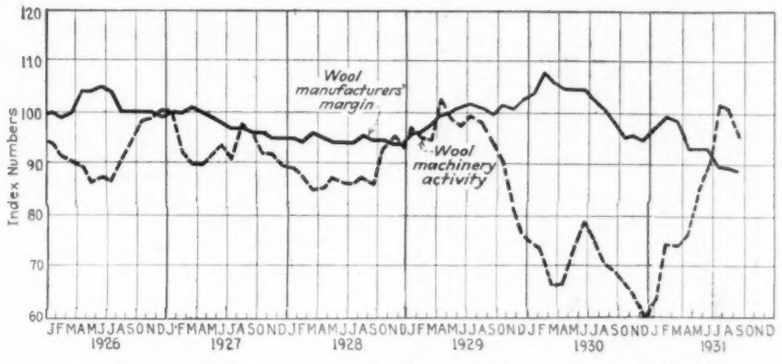
Index Numbers
Wool manufacturers' margin
Wool machinery activity
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Fig. 2. WOOL MANUFACTURERS' MARGINS AND ACTIVITY:

Wool Manufacturers' Margins—Average of replacement margins; Wool Machinery Activity—Composite of loom and spindle activity, adjusted for seasonal variation; Average 1923-1927 = 100 for both indexes.

Market Briefs

Cotton: ***Aided by strong commodity trend, steady despite increased crop figures.***

Cotton Yarns: ***Spinners ask higher figures but buyers withhold.***

Cotton Goods: ***Waiting market after active period.***

Wool: ***Tendency to weaken is gaining ground.***

Worsted Yarns: ***Irregular market with business slow.***

Woolen Goods: ***"Wool Week" stimulates demand; builds confidence.***

Silk: ***Rally brings 5c. advance; better buying.***

Silk Yarns: ***Thrown yarn prices stronger; little buying in either thrown or spun markets.***

Silk Goods: ***Improved call for spring fabrics. Spot lines clearing.***

Rayon: ***Curtailed production brightens outlook.***

Knit Goods: ***Fair hosiery call, but Christmas buying continues backward. Winter underwear and sweaters active; swimsuit volume to date well below last season.***

FABRIC NOVELTY

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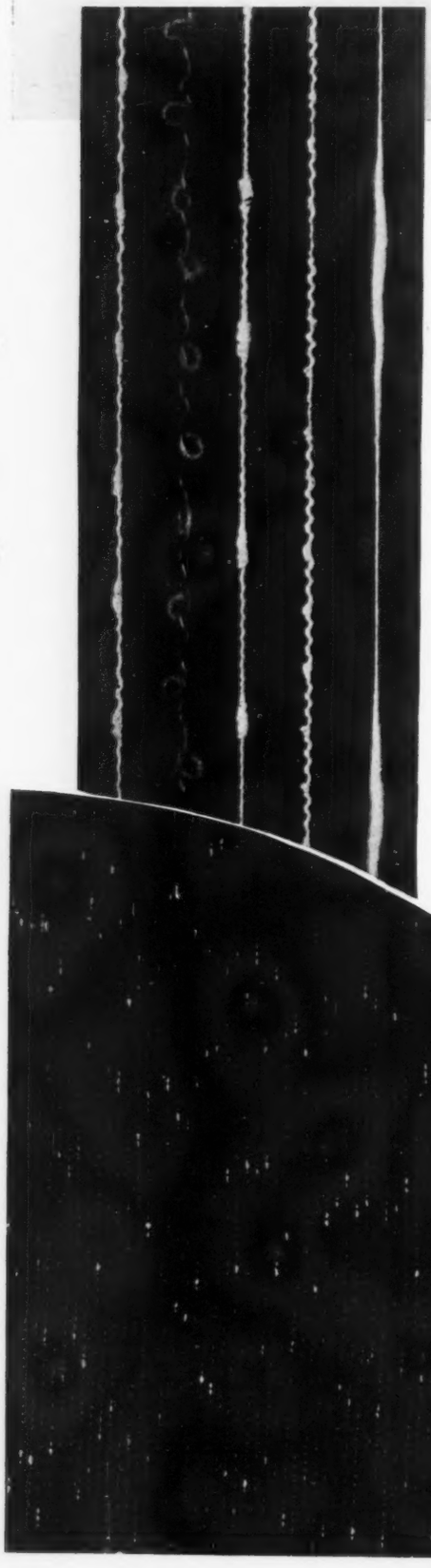

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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarn Prices Reflect Firm Cotton

MIXED conditions appear in yarns as result of recent developments in the cotton market following the Government's report showing further increase in crop estimate of over 600,000 bales. The advance in cotton on Monday had a tendency to strengthen the price position of spinners. Efforts to buy yarns at the former prices were rejected, in some instances with a laugh of scorn. However, there were also many buyers of yarns who postponed any action on contemplated purchases. Apparently they had little confidence in the advance because of the increase in the crop, and felt confident there would be a reaction, and, therefore, preferred to await further developments before buying. This attitude caused several deals to fall through for the time being. Because yarn users have not been getting any great volume of business, they are hesitant about yarn orders.

Spinners however have developed a firmer attitude. Efforts to place business at 13½c. for 10s, even on good size quantities, have been rejected, with 14c. the lowest price named. Another house tried to place business for 20s-2 warps at 16½c., but said they were unsuccessful this week, as 17½c. was the average asking price. A large manufacturer tried recently to place an order for carded weaving yarns calling for deliveries commencing with April, 1932, and running well into the summer, but failed to find a spinner who would consider business so far ahead. Spinners and dealers prefer to restrict forward business to the early part of 1932, and direct sellers decline anything beyond the present crop. There are occasional soft spots, limited to nearby delivery.

Weaving mills continue to evidence lack of activity. Last week saw a little business on 20s-2 warps from some men's wear and hair cloth manufacturers. These sales were of good size, running as high as 50,000 lb. in one case. The average price was 16½c., and the dealer admitted he would have difficulty in placing the business this week. Other sales included 30s-2 warps of average grade at 20c.; yarns of quality would command a better price, as for example plush yarns sold down East at 22c., with 22½ and even 23c. asked for high quality yarns.

Carded knitting yarns have shown rather less activity this week. Mild weather for this time of the year has checked heavy weight underwear. Small lots might find a price of 14c., but 14 to 14½c. is the prevailing quotation.

Combed yarns have been less active than carded, although sales are reported here and there, with occasional interest in future deliveries at a price. Quotations show little change over last week, with 10s at 19 to 20c. A better tone is reported on mercerized yarns with more business placed. This as a rule has been at figures under the prices listed on page 66. Dealers are more encouraged over the outlook and anticipate some good business for spring on seamless hosiery.

◆Cotton Steady Despite Large Crop

THE feature of the cotton market during the week was the Government crop report of Monday. This placed the indicated crop at 16,903,000 bales representing an increase of about 619,000 bales as compared with the indication of Oct. 1. Generally speaking, the trade had been talking a crop estimate of between 16½ and 17 million bales, but the official figures were slightly over the average expectation and considerably over the average of the private reports which had preceded it. It failed, however, to bring in any selling of consequence. The market which had eased off before the report hesitated slightly and then advanced following its publication owing to the continued strength of wheat and silver and a renewal of the buying movement which was encouraged by the failure of the big crop figures to stimulate additional selling. The advance met considerable realizing and a little more southern selling and was not fully maintained but the market showed a fairly steady undertone.

There can be no doubt whatever that the commodity markets are attracting increased investment or speculative interest, and that cotton has shared in the increased optimism. The feeling appears to be that recent events have been leading up or pointing to some inflation in commodity values and this sentiment has been growing steadily stronger since Great Britain temporarily suspended the gold standard. It has found one of its chief reflections in the action of silver which has advanced sharply which, of course, should have a tendency to improve the buying power of the Orient. This has been accompanied by reports of an increased demand for cotton goods from Manchester for India and China while one of the features of the cotton export movement so far this season has been the substantial increase in clearances for Japan and China.

Brokers credited with acting for cooperative interests have been sellers in the local futures market, particularly of the spring months and these same interests are believed to have been buyers of spot cotton in the South. The inference has been drawn that contracts purchased by the cooperatives last season to replace spot cotton sold, are now

(Continued on page 62)

◆Worsted Yarns Find Less Interest

RATHER less activity is reported this week in worsted yarns. Wool is still holding firmly, but the yarn price situation remains unchanged, with a tendency to shave prices where there is an opportunity to move any volume business. Reports of low prices are also to be heard, and if some of these are true, it would certainly be safe to predict that certain spinners are due to show considerable red ink at the end of the year. However, many factors are beginning to discount some of these reports as merely wild rumors. With wool prices holding where they are, it seems like a mistaken policy to operate at the loss which some of the reported prices would entail.

Another factor which has been commanding attention on the part of spinners and dealers, is the question of terms which have been allowed, or have been exacted by certain knitters. The question is being asked why knitting yarns cannot be consistently sold on the regular terms of 2% ten days, instead of the various protracted periods which are of irregular duration, and are foolish as well as decidedly unprofitable for everyone except the purchaser. Some of the terms are of such duration that the spinner is practically acting as the banker for the knitter.

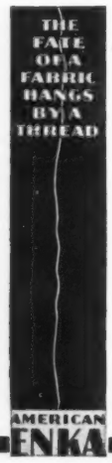
Knitters have apparently not received orders in volume for sweaters and other forms of outerwear lately. Unseasonable weather has been a big factor in this condition. As a result, some of these mills find their orders falling off, and their operations slowing down. It is naturally their desire to keep their inventories as low as possible, so that their purchases and specifications of yarns have slowed up. They are planning to operate on a hand-to-mouth basis and make up goods as they are ordered and take in their yarns accordingly. Several knitters are already working on their spring samples, and are sampling on various yarns for this purpose. Some little business on staple bathing suits is reported, and certain knitters have indicated their intention of specifying shortly against their contracts for these yarns, as they wish to make deliveries by the end of December, and it will require at least four weeks to make up the yarns needed. Of course the bulk of this business is hardly expected before the first of the year for January and February. Single 18s quarter-blood yarns, dyed, are quoted by average spinners at 92½ to 95c., with a possibility of a slight concession on a good size order.

Men's wear and dress goods mills show little improvement. Their yarn

DULL or BRIGHT YARN — ENKA is ready for your call

Whether you order the new dull Perlglo or Enka's famous bright lustre yarns, you are assured quick delivery and a satisfactory performance. Both are made to a high standard of quality. **Both are smooth running, extra strong — wet or dry — with high elongation. Both take dye perfectly level, enriching fabrics with the brilliant sparkle of Enka's bright yarns or the soft pearl-like iridescence of the newer Perlglo. Here then are yarns — bright or dull — that will give faster production and a better looking, more marketable product.** **A running test on either will get an enthusiastic O. K. from the most critical mill man. We are now making immediate deliveries to weavers, both on Perlglo and the bright lustre yarns.** **In skeins, long or short; on cones, weaving or knitting; bleached, unbleached or tinted.**

Perlglo ENKA



★

AMERICAN ENKA CORPORATION
271 Church Street, New York City
Asheville, N. C. · Providence, R. I.

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

specifications and purchases are much restricted. Orders have been scattered and few mills seem able to show any satisfactory volume of orders. There is, however, some disposition now to report a slightly better tone. Specifications have been noted on such yarns as 2-30s, 64s quality, in fancies, with Bradford yarns around $1.32½ and French spun at $1.35, average.

◆Wool Recession Resisted by Trade

THE wool market is exhibiting a slightly downward trend in merinos offset by a slightly upward trend in medium wools. Dealers are offering stronger opposition to bearish pressure from topmakers and others, and, although wool buying from the Lawrence section of late has been almost negligible, the trade believes that the statistical position of wool as related to the probable demand during the months prior to the arrival of the 1932 clip places the market in a more favorable position than for several years. Larger holders are not meeting concessions asked for by mill buyers.

Some houses have had a fair business, others doing little or nothing, but in each case a firm attitude is being shown toward mill buyers seeking lower prices. Fine wools have been neglected but as an offset the half-blood wools have sold more freely. The shorter fine wools of Texas growth have encountered some mill buying, but original bag territory wools have been relatively stagnant. Original bag wools, New Mexico and Colorado type, are quoted 48-52 with Montana, Wyoming and similar at 52-54c.

The Australian market under heavy competitive buying of England, Japan and the continent continues to touch new high levels. Recent Brisbane sales set a new high level on American style wools. The best super 64-70s was quoted 41, clean landed Boston; best topmaking 64-70s at 36c. and average topmaking 64-70s around 35c., exchange at $3.75. Official estimate of Australian production this season is given as 950,000,000 lb., an increase of 10,000,000 lb. over last season while the New Zealand clip is estimated at 210,000,000 lb., a decrease of 10,000,000 lb. as compared with last season.

◆Wastes, Noils, Rags Seem Deflated

BUSINESS in substitutes for virgin wool has made little material progress during the week. Prices are right but demand is small. Woolen rags continue on the low basis of the year, October was probably the worst month of the year for rags, clips and reworks and the unusually small demand seen from month to month allowed the general price basis to sag constantly to lower levels. However, there is little reason to believe that the weeks ahead will see any further extension of the decline.

During the week moderate quantities of light hoods, fine light and coarse light merinos, white knits, also black and blue worsteds and serges were taken in small quantities by manufacturers.

Wool wastes are sluggish, but values are firmer than they were. Supplies have been decreasing for the last six weeks. So far as it is possible to predict the balance of the year it would seem as though the peak in waste output was seen in August and that from now on supplies will be in smaller compass with demand from woolen mills showing gradual expansion.

Business in October in the noil market covered a restricted demand from woolen and felt manufacturers and prices throughout the entire month in some grades were the lowest for many years.

◆Rayon Curtailment Tendency Growing

MARKET inquiry disclosed a tendency among smaller rayon yarn producers to abandon their policy of capacity output, and to bring production into closer alignment with true demand. These firms, it is bruited, are less favorable than previously to the idea of building up stocks, irrespective of actual sales. This method had a strong hold on part, if not all, of the trade last year, and was largely responsible for the price-cutting which prevailed so generally. While the new trend is reported unofficially, it is being taken with some seriousness by the larger producers who see it as a good omen for 1932. The large producers have cut their yarn production steadily during recent weeks, reflecting a decline in orders; last week these plants were operating at 80% of capacity; this week, output has fallen to 75%. Adoption of the 5-day week by some firms helped to this end.

Sales are improving and prices are steady. Weavers are still hesitant due to the doubtful position of rayon flat crepes, but a fair quantity of business was placed by these mills during the week. Encouraging too, is the increasing number of inquiries producers are receiving from the broadgoods firms. Knitters continue active and were steady buyers this week. There is less future business, however, and no strong trend in that direction is looked for.

◆Throwsters, Spinners Hopefully Waiting

IMPROVEMENT in raw silk has brought an advance in thrown yarn prices and levels are 10 to 15c. above last week. Buying interest continues mild, however, and hosiery mills constitute the main outlet; these knitters appear to be in good position; they place good-size yarn orders, some as far ahead as February. Trams being only a moderate percentage of yarn business, throwsters are still hoping for some improvement at the broadsilk end. The weavers place occasional orders for crepes, but are indifferent to organzines, and the aggregate demand at present is so far below normal than throwsters have ceased to compare sales lists with other years. They attribute the attitude of the broadsilk mills to the backwardness of the spring fabric season and look for good buying, once fabrics start selling actively.

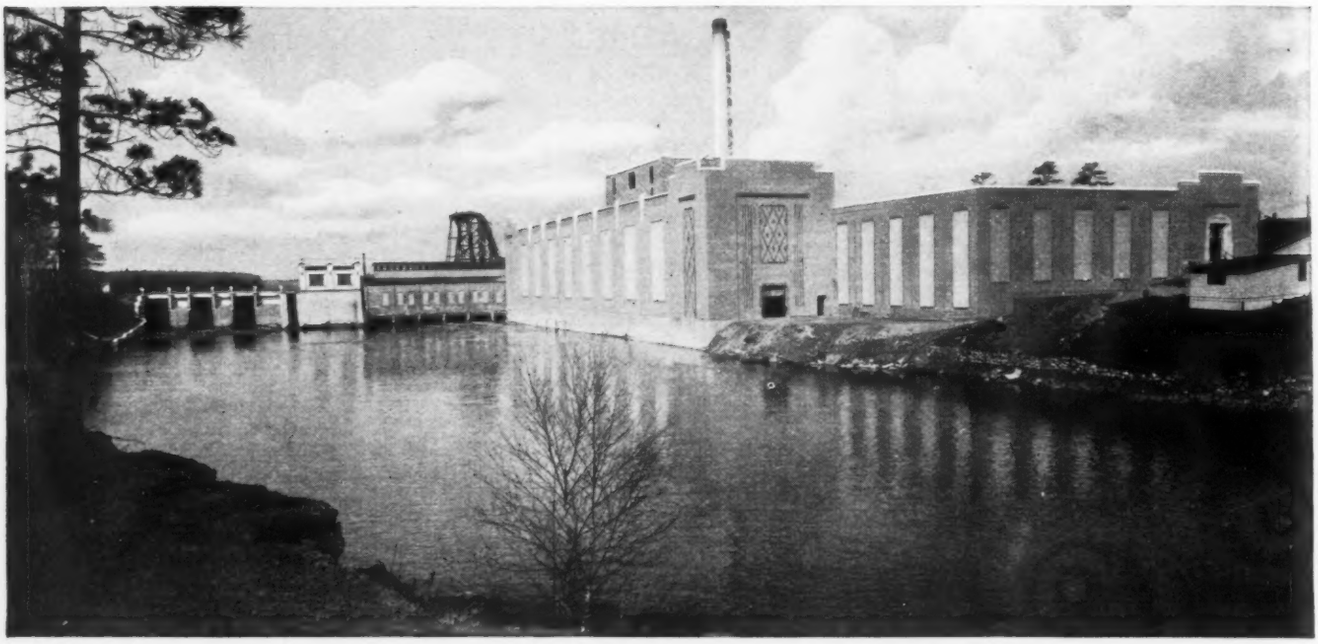
Spinners receive numerous inquiries from manufacturers of spun silk fabrics, and are hoping for some definite upswing in demand before the end of the year. A few large mills have ordered their initial supplies of yarn, but the trade as a whole is backward. Spun yarn prices are steady and stocks in spinners' hands are low.

◆Raw Silk Rallies Sharply After Drop

RAW silk rallied sharply this week, following a series of fluctuations which made levels so uncertain that some importers withdrew their quotations. It would be hazardous to offer definite thought on immediate outlook; however, tone has improved and conservative factors talk more confidently of the prospects. Increased buying by broadsilk mills is a favorable element, though orders are still light and backward. Raw silk prices are 5c. above those quoted last week and indications point to further contracting by weavers. These manufacturers report fair preliminary movement of spring fabrics and they are gradually getting into line on spring production.

The hosiery industry is buying steadily, all orders being small but some are six to eight weeks in advance. Through its fluctuations, raw silk has shown a persistent progress during recent weeks, and this is significant considering that only a nominal amount of spring business has been placed as yet by broadsilk houses. Yokohama holds firm, and appears to regard the Sino-Japanese crisis lightly so far as the silk market is concerned.

Those vertical panels in the building illustrated are not windows—they're made of cement—light in color for decorative purposes.



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GENERAL ELECTRIC VAPOR LAMP COMPANY

FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Cottons Again in Waiting Mood

ALTHOUGH for several weeks the stage has been set in the cotton goods market for real improvement, the curtain has failed to rise. The upturn in cotton was counted upon to draw out buying of goods and encourage advances in price. Certainly users of cotton materials have been carrying on with minimum supplies and freer replenishment must come some day. October figures showed a fair volume of sales of gray goods, which, because of relatively light production and deliveries, brought a marked increase in the industry's unfilled orders. Buying fell off at the end of the month and had not picked up again by the middle of the week.

During the period since the first of November there has been evidence of considerable fundamental progress toward better general business conditions, but these had either been anticipated and discounted by cotton goods buyers, or else they are regarded as mere passing speculative flurries. For example the grain markets have experienced a rise which must mean a greater return to the farmer, and the price of silver has risen which may help the international financial situation particularly as related to the Far East. High silver and low cotton are pointed to as a formula for a big textile business with the Orient. Even though England and Japan may get the lion's share, it means cotton consumption and helps our southern farmer dispose of his extravagantly large crop.

Students of the market do not pass judgment on the results of a week or two and they are hopeful that by the end of November the favorable elements found in the October cloth statistics will have been continued and perhaps magnified.

Light Movement in Gray Goods

Lack of forward business in converters' finished goods is regarded as responsible for the current light movement in gray goods. The fact that print cloths receded to their low point and in cases broke through it is thought by some to be evidence of an unwise expansion of production. Sheetings appear relatively firmer and this in turn is laid to more conservative mill operations. The fact that business in sheetings has been better than that in print cloths may alone explain the situation.

Late deliveries of 4-yard 80-squares have been offered at 5c. this week, and 5.35-yard 64x60s have sold at 3⅝c. Sheetings were fairly active in some quarters at mid-week. In broadcloths, 100x60s were available at 5¾c. for quick delivery and at 5½c. for contracts. There was a better feeling in fine and fancy gray goods but this was not translated into greater orders.

In some quarters of the market colored goods made a fair record with particular reference to the coarser colored yarn fabrics.

The Government crop estimate showing an expected crop of nearly 17,000,000 bales was given scant consideration in the cotton market on Monday the day of issuance. On Tuesday however there was slight recession. Cotton goods buyers may be giving more attention to this situation than the speculative futures market itself. It may be that the large quantities of cotton held off the market by various devices may prove to be a shadow that the goods buyer will take a long time to see through.

◆"Wool Week" Helps Fabric Sentiment

OCCASIONAL cool days have brought some acceleration to the wool goods movement. While actual volume on both spot and future lines is still light, there is a more confident feeling in the market. "National Wool Week" has developed a degree of trade consciousness among mill factors; manufacturers of women's wear fabrics are especially encouraged as they expect a better call for these lines to result from the style show which was a feature of National Wool Week dinner at the Waldorf-Astoria Hotel, New York, Saturday evening.

Woolens are in fair position, and prices hold steady; there is no great carryover of stocks, and mills are cautious about their output for the coming season. Overcoatings are backward, due mainly to the mild weather which persisted through recent weeks; any real drop in temperature would help sales at that end, but mill factors do not expect a notable improvement unless this develops prior to Dec. 15, as by that time cutters will begin to look for goods "at a price."

Pick-up Men's Worsteds

Sales of men's worsteds picked up somewhat this week, the call being pretty well divided among the new lines. Cutters do considerable spot buying, and are strong for brown shades. Spring fabric demand is uneven, and such orders as are placed, lean to gray mixtures. Stripes are moving more slowly than expected.

Worsted mill representatives incline to the idea that Lord Barnby's prediction of a possible rise in wool, is something more than sheer optimism. Numerous factors this week said they believed the industry was nearing a turn in that direction. This view is particularly interesting as coming from individuals usually skeptical in their attitude. It is based partly on the improvement noted in the securities market and partly on the more cheerful attitude assumed by important customers in the garment field.

◆Cutters "Shopping" New Broadsilk Lines

IMPROVED weather conditions plus new spring fabric offerings stimulated interest of cutters-up in broadsilks this week. Actual orders placed for prints were light, but the increasing confidence manifest among buyers brought cheer to fabric houses, and a steady growth of spring business is looked for. The cutting-up trade is doing plenty of "shopping around," and there is particular interest shown in winter resort lines. Some mills report considerable advance business, but buying as a whole is light.

Weavers look to spring with unusual assurance this year, thanks partly to a better tone at the consuming end, and partly to the new policy of curtailment being adopted by fabric manufacturers. The broadsilk trade is far from a unit on curtailment as yet, and more general leaning to this policy is essential if the curtailment is to succeed in stabilizing prices.

Curtailment Effective

The partial curtailment during fall proved effective and should stimulate the industry to further effort along this line. Thanks to cautious production, the trade nears the end of the fall season with stocks very low; some firms claim to be practically cleared, and the current spot reorders are disposing of remainders. Prices have weakened during recent weeks, but the break was much less pronounced than in recent seasons. A fair percentage of the industry actually came through fall profitably, which is saying a lot for broadsilks. These manufacturers show a real determination to redeem their industry, and provided the trade as a whole gives proper support, weavers will enjoy a really profitable season in the coming three months.

The market reacted favorably to the guarantee policy announced by a leading broadsilk house, last week, which many see as a step toward consistent price strength and low inventories. This firm guarantees that print designs, when originally sold to a specified dress trade, will not be sold to any other price group before Feb. 15.

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Greater Confidence Among Hosiery Mills

WHILE Christmas orders are still backward, there is a firmer undertone in the hosiery industry, and knitters talk more confidently than in months. Holiday business is above last week, the trend being strongly to lines retailing at $1.15 to $1.50 in women's goods. Total Christmas volume to date has somewhat disappointed mills, and they are resigned to a last-minute rush. It is quite likely that jobbers and retailers may have difficulty in getting adequate holiday stocks in time, if they defer further in contracting. There is an abundance of stock of low-priced full-fashioned available, but the quantity of higher-priced lines in which field gift demand is strongest, is well below normal. Production of quality full-fashioned hosiery has been backward throughout fall, due to strikes and also to voluntary curtailment by mills.

Mesh hosiery continues a leader in Christmas orders, and indications are these novelties will hold a foremost position in movement for the next four weeks. Men's half-hose sells actively, but prices are weak; there is some disposition on the part of larger mills to resist downward pressure, and this may bring a firming. Rayon half-hose has advanced slightly, reflecting the advance in yarn prices. Current call is for clocks and small all-over patterns, in medium mixed shades. There is also a fair demand for staples in the dark tones.

◆Ribbed Underwear Enjoys Spirited Call

NOT even backward weather can further delay the movement of ribbed underwear; buyers place plenty of reorders for end-year shipment, and the mills are still trying to catch up with business previously booked. Orders showed a slight let-up this week, which was welcomed by underwear manufacturers as giving them a chance to narrow the span between purchase and delivery. Outlook for the industry seems quite favorable. Price tone is firm and levels allow for a fair turnover. Knitters look for another five to six weeks of substantial coverage on ribbed goods.

Spring lines go slowly, so far. Buyers attend the showings and indicate interest in the numbers offered, but there is a pronounced aversion to placing business. Jobbers and retailers adopt a strictly "shopper" policy and mills do not look for much business on these lines prior to December. The delay is due to the backwardness of ribbed underwear, as retail buyers hesitate to cover on the new season when their current stocks still lie on the shelves.

In the meager spring business being placed, cottons show the usual lead, but there is considerable interest in rayon fancies. The predeliction toward striped effects for summer promises to help the sale of colored lines of men's lightweights when the real volume demand shows itself.

◆Trade Awaits Spring Sweater Openings

THE gradual approach of a belated winter is helping movement of heavyweight sweater lines, and is building market interest in the new lightweight sweaters, scheduled to open next week. Knitters of winter sweaters are in good immediate position, as regards volume, some being so heavily oversold as to lose business; the trade hopes for a longer season than usual to compensate for the late start. Prospects point to a slow steady pick-up during the lightweight sweater season, but there is no great likelihood of big buying at the openings. Much will depend on weather conditions during the next ten days, and the retail movement of winter sweater lines, as buyers steadfastly refuse to do future contracting until they see current stocks selling.

Swimsuit sales are better than last week, but demand is still light, and total business written is well behind this time last year. Knitters continue confident, the delay being viewed as a natural reaction to current industrial conditions. Prices have steadied and promise to hold firm for the remainder of the quarter. Mill agents have received part of their Southern resort orders, and they expect increased buying from that end through December. Stock position is very satisfactory; there was a light carry-over from the current season, and production of the 1932 lines has not yet gone much past the sample stage. The stock position is a particularly encouraging factor and provided production in the first quarter is kept close to sales, market tone should hold firm.

▸Buyers Want Durene Full-Fashioned Hosiery

Numerous hosiery buyers in stores in 22 cities recently told William French Anderson, merchandise representative of the Durene Association of America, that the leading "new uses" preference is for women's full-fashioned Durene hosiery in plain, sheer weights and also in meshes.

◆Raw Cotton Reports

(Continued from page 57)

being reconverted into spot cotton through their liquidation in the local market and the purchases of unusually fine grades and good staples in the South. This may possibly be a part of the New Orleans plan. No official announcements have yet been made as to the exact amount of cotton, the holdings of which will be financed by southern banks, but it is understood that it will reach the amount of 3,500,000 bales stipulated by the New Orleans discussions and that consequently the cotton or replacements held by the Cotton Stabilization Corp., and the cotton or replacements held by the American Cotton Cooperative Association will be held over until after the end of this season. It may be that with the spots so low in price the cooperatives are planning to carry forward actual cotton instead of maintaining their holdings in the futures markets.

Meanwhile, the holding movement in the South evidently continues. Facilities for financing such operations have been improved, while the low price of cotton and correspondingly ease in financing, as well as the unusually fine quality of the cotton are all tending to encourage this holding movement. Such cotton as is offering for sale seems to be readily absorbed with the basis high and we have the rather unusual combination of a record-breaking season's supply holding very steady despite something less than the normal rate of consumption.

◆Wastes Continue Fairly Active

THIS was another fairly active week in cotton wastes, although the publication of another Government crop report temporarily restricted the volume of business placed by mills and other consumers during the early part of the week. Dealers and users of cotton wastes, however, were agreed that current waste prices have largely discounted the immense supply of raw cotton available. Spinnable materials continued the most active stocks.

Waste dealers are directing their attention to the question of contracting for next season's supplies, and it is quite probable that many will abandon this form of merchandising in favor of selling on commission which has made rapid strides in the cotton waste trade during the last two or three years. Low waste prices and slim profit margins during this period have caused dealers to look with greater favor upon a form of merchandising which involves far less capital and precludes the possibilities of large inventory losses.

TEXTILE FINANCIAL NEWS

TEXTILE WORLD ANALYST

◆ Jantzen Reports Drop in Profit

REPORT of the Jantzen Knitting Mills, Portland, Ore., for the year ended Aug. 31, 1931, shows net profit of $180,989 after interest, depreciation, Federal taxes and other charges, equal, after preferred dividends to 57c. a share on 200,000 common shares. This compares with a net profit of $669,156, or $6.57 a share on 100,000 common shares outstanding a year ago, and net profit of $646,829, or $6.11 per common share on 100,000 shares in the year ended Aug. 31, 1929.

Sales for the fiscal year totaled $3,681,665 against $4,753,203 in the preceding year and $4,254,013 in the year before that.

Otis Loss Greater

The Otis Co., cotton goods, Three Rivers, Mass., reports for the year ended Sept. 26, 1931, a loss of $336,104 after all charges, which compares with a loss of $109,229 in the previous fiscal year, and a profit of $200,712 in the 1929 year. Sales in 1931 amounted to $3,875,178 against $5,664,413 in 1930 and $7,634,573 in 1929. Current assets on Sept. 26, 1931, totaled $2,401,731 and current liabilities $202,427, leaving working capital of $2,199,304 compared with a working capital a year before of $3,217,820. This reduction of $1,018,516 was largely accounted for by a reduction in the par value of the common stock from $100 to $80 per share by payment of $20 per share to stockholders, requiring $773,380, and also by the purchase of 1750 additional shares of stock for $61,576.

Van Raalte Dividend

Directors of the Van Raalte Co., hosiery and silk goods manufacturers, have declared a dividend of $1.75 per share on the 34,925 shares first preferred stock, payable Dec. 1 to stock of record Nov. 20. This is the first disbursement on this stock, which is entitled to cumulative dividends at the rate of 7% per annum before any dividend is paid on the common stock, since Sept. 1, 1927. Net income of the company for the nine months ended Sept. 30, 1931 was estimated at slightly in excess of $69,000.

Financial Brevities

Waypoysett Mfg. Co. Central Falls, R. I., has been granted an amendment to its charter allowing a change of the par value of the common stock to $1 per share instead of no-par. Officials said the change involved no new financing, but was made to facilitate valuation of the stock on a $1 basis. No-par shares carry a technical valuation of $100 par, they said. The company has 91,500 shares of common stock authorized, of which 40,500 are outstanding. There are 10,500 of prior preference cumulative convertible stock, without par value, authorized and 4,200 shares of preferred without par.

Stockholders of Stevens Mfg. Co., Fall River, Mass., have approved the reorganization plan of directors, details of which were outlined in Textile World of Oct. 24, and a new corporation, Stevens Mfg. Corp., will now be formed to take over the present concern.

Directors of Cabot Mfg. Co., cotton goods, Brunswick, Me., have declared quarterly dividend of $1.50 per share payable Nov. 14 to stock of record Nov. 5, thereby placing the stock on a $6 annual basis, as against $8 formerly paid.

Wilmington Hosiery Mills, Inc., Wilmington, Del., have arranged for an increase in capital from $24,000 to $74,000, for general expansion.

The Berkshire Knitting Mills, Reading, Pa., has called for redemption 330 shares of 7% first preferred stock, par value $100.

For the quarter ended Sept. 30, 1931, Sidney Blumenthal & Co., Inc., shows net profit of $242,596 after depreciation, which compares with net profit of $142,160 in the third quarter of 1930. For the nine months ended Sept. 30, 1931, net profit was $102,956, as compared with net profit of $130,028 for the same period of 1930.

Boston Stock Auctions

The following sales of textile shares were made at Wednesday's (Nov. 4) auctions:

Shares	Mill	Par	Price	Change
2	Pepperell	100	40½	—½
15	Lancaster, pfd.	...	2	...
17	Total			

▸ Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended Nov. 10:

	High	Low	Last Sale	Net Ch'ge
Adams Millis	30	29	30	+1½
American Woolen	6⅜	5½	6½	+½
American Woolen, pfd.	29¾	25	27½	+2½
Belding-Heminway	5	4½	4½	—¼
*Blumenthal	6½	6½	6½	+1
Botany Mills, A	1¼	¾	1	—¼
Cannon Mills	20	19	19¾	+1
Century Ribbon	6½	5⅜	5⅜	—¼
Collins & Aikman	12½	10½	11½	+⅜
Consolidated Textile	⅜	⅜	⅜	+⅛
Duplan Silk	10	10	10	....
Gotham Hosiery	8⅜	8	8½	—⅛
Industrial Rayon	35½	33	34	+1
Kayser, Julius	11½	9⅜	10½	+¾
Kendall, pfd	40	39	40	+1
Mallinson	1⅛	1⅛	1⅛	+⅛
Mohawk Carpet	10	9	10	....
Munsingwear	19	19	19	+3⅜
Pacific Mills	11	11	11	....
Phoenix Hosiery	7	7	7	+2½
*Powdrell & Alexander	20	20	20	....
Real Silk Hosiery	4½	3⅞	4½	+1½
*Tubize	3⅜	3¼	3¼	—¼
United Piece Dye Works	14¼	14¼	14¼	+½
Van Raalte	12	12	12	+2

*Listed on Curb.

▸ Southern Mill Stocks

(R. S. Dickson & Co., Charlotte, N. C.)

	Bid	Asked
Acme Spinning Co	40	54
American Yarn & Processing Co	29	35
Chadwick-Hoskins Co. (Par $25)	4	8
Chadwick-Hoskins Co., 8%, pfd	74	82
Crescent Spinning Co	30	38
Durham Hosiery, 6%, pfd	14	23
Erwin Cotton Mills Co., 6%, pfd	81	90
Flint Mfg. Co	..	52
Flint Mfg. Co., 7%, pfd	..	90
Hanes, P. H. Knitting Co	3	6
Hanes, P. H. Knitting Co., 7% pfd	74	89
Linford Mills	34	36
Perfection Spinning Co	37	50
Roanoke Mills, 1st pfd., 7½%	38	..
Rosemary Mfg. Co., pfd., 7½%	57	..
Stowe Spinning Co	32	50
Ware Shoals Mfg. Co	..	90
Ware Shoals Mfg. Co., 7%, pfd	84	91
Winget Yarn Mills Co	..	42
Wicasset Mills Co	100	120
(A. M. Law & Co., Spartanburg, S. C.)		
Avondale Mills, Ala	575	675
Bibb Mfg. Co	78	83
Clifton Mfg. Co	..	61
D. E. Converse Co	..	51
Dunean Mills	75	85
Dunean Mills, pfd	94	96
Gossett Mills	..	30
Hunter Mfg. & Com. Co., pfd	67	72
Judson Mills, A pfd	78	83
Judson Mills, B pfd	75	80
Monarch Mills	..	70
Newberry Cotton Mills	..	75
Orr Cotton Mills	..	35
Pacolet Mfg. Co	..	40
Piedmont Mfg. Co	..	53
Riverside & DanRiver Mills (Par $25)	6	8
Riverside & Dan River Mills (6%, pfd)	50	53
Southern Bleachery & Print Works, pfd	..	40
Spartan Mills	..	95
Union-Buffalo Mills, 1st pfd	..	43
Victor-Monaghan Co	39	41

▸ New England Textile Stocks

Quotations at "Public Sale" are based on last sales at Boston Public Auctions and Boston Stock Exchange. Bid and Asked prices are latest quotations of dealers.

	Sale	Bid	Asked
Am. Mfg. Co., pfd	50	48	..
Amoskeag	5⅜	..	..
Arlington	23	18	21
Associated Textile	10	..	10
Bates	60	41	..
Berkshire Associates, com.	12⅜	2	4
Berkshire Associates, pfd.	40½	11	15
Bigelow-Sanford, com	26	..	..
Boott Mills	120¼	40	60
Edwards	80⅜	42	46
Esmond, pfd	98	95	99
Farr Alpaca	35½	27	30
Hamilton Woolen	55	45	50
Hill	7	4	6
Indian Orchard	10	..	10
Ludlow	65	64	66
Merrimack, com	35	8	14
Nashua, com	7	4	8
Nashua, pfd	29	22	25
Naumkeag	50	49	53
Newmarket	16½	7	11
Otis	45	40	44
Pacific	14	..	..
Pepperell	40½	41	44
Plymouth Cordage	56	..	55
York	8¼	6	..

▸ Fall River Mill Stocks

(G. M. Haffards & Co., Fall River)

	Bid	Asked
Algonquin Printing Co	175	228
Barnard Mfg. Co	7	..
Berkshire (com.)	2	..
Berkshire (pfd.)	10	..
Bourne Mills	12	..
Border City Mfg. Co	4	5
Charlton Mills	..	48
Davol Mills	1	4
General Cotton	1	3
Luther Mfg. Co	..	70
Merchants Mill	7	8
Narragansett Mills	..	3
Pepperell Mfg	39	42
Pilgrim Mills	..	30
Richard Borden Mfg. Co	1	..
Sagamore Mfg. Co	..	50
Shove Mills	..	..
Stanford Mills	..	1
Stevens Mfg. Co	..	25

Lawrence Strike Conceded Over; New Bedford May Accept 10% Cut

INCREASING prospects of labor harmony brightened the textile horizon in New England this week. The big strike in the Lawrence, Mass., wool mills appeared to be at an end. According to late reports Tuesday evening, the three groups involved—the manufacturers, workers' organization leaders, and the civic committee—had conceded the strike to be concluded. Wednesday, Armistice Day being a legal holiday in Massachusetts, most mills were closed, and indications pointed to resumption of operations by most units within a few days thereafter.

Certain groups of employees, especially those who had been employed at the Wood and Ayer mills, had long resisted acceptance of the 10% reduction in wages, but sentiment for returning to work at the lower levels is now reported to be dominant among the majority of these operatives. Reports to the effect that Pacific Mills employees sought work in other mills, stimulated a rush by Arlington and American Woolen workers to get their jobs back.

The New Bedford (Mass.) Cotton Manufacturers' Association Tuesday recommended a 10% wage cut to the executive committee of the New Bedford Textile Council, and the latter committee has approved this move. It is expected the workers will accept the cut as they have shown a conciliatory attitude and are fully informed of the problems facing the manufacturers in that district. The cut is made necessary by wage reductions in competing centers, manufacturers say, and will not go into effect until Dec. 7 because of a 30-days notice clause in the agreement with labor.

Additional Exhibitors at the Silk Show

Subsequent to the publication in last week's issue of TEXTILE WORLD's Guide to the National Silk Machinery Exposition at the Fifth Regiment Armory, Paterson, N. J., Nov. 14 to 21, the following concerns have been added to the list of exhibitors. A floor plan was published in last week's issue:

J. F. Cermak Co., New York. Booth 122. Paragon ventilating equipment, consisting of an exhaust fan manufactured by the American Propeller Co., a subsidiary of the Bendix Aviation Corp., Rep.: J. F. Cermak, M. J. Liebman, C. H. West, D. Crosby, H. W. Smith.

J. J. Galli, Paterson, N. J. Booths 97, 98. See U. S. Testing Co.

E. Gerli & Co., Inc., New York. Booths 97, 18. See U. S. Testing Co.

John P. Nissen, Jr., Co., Philadelphia. Booth 120-A. Marking inks.

U. S. Testing Co., New York. Booths 97, 98. Cocoon reeling exhibit. E. Gerli & Co., Inc., and J. J. Galli cooperating.

Exhibitors of yarns and fabrics who have taken space in the Armory are:

Conrad Hosiery Co., Clifton, N. J. Moving picture showing manufacture of hosiery at the company's plant. Rep.: J. A. Conrad, O. H. Conrad, E. E. Traver.

Doherty & Wadsworth Co., Paterson, N. J. Dress and tie silks.

C. K. Eagle & Co., New York. Silk yarns and fabrics.

Malina Co. of New Jersey, Inc., Paterson, N. J. Rayon warp, cops, and cones. Rep.: J. Gruber.

Stehli Silks Corp., New York. Silk and rayon fabrics.

L. & E. Stirn, New York. Silks and velvets.

Improvement in Chattanooga Territory

Definite improvement in textile conditions in the Chattanooga (Tenn.) area was observed by the Southern Editor of TEXTILE WORLD on a visit to that section this week. The majority of knitting mills reported recent increases in their operating schedules and sales representatives in the local yarn trade confirmed these reports. One important yarn converting and dyeing plant is operating at 80% of capacity and others have stepped up their schedules in order to take care of increased business. Several hosiery manufacturers are reported to have their requirements of mercerized yarns bought ahead for six to eight months. Although unusually warm weather throughout the country this fall has delayed seasonal purchases of hosiery and other knit goods, local manufacturers are expecting cool weather this month to greatly stimulate their business. Peerless Woolen Mills, Rossville, Ga., manufacturers of goods for the men's wear trade, are operating at a normal rate of production.

Vocational Classes Start at Leaksville, Draper, Spray

The night school classes in Leaksville, Spray and Draper, where plants of Carolina Cotton & Woolen Mills Co. are located, under the supervision of Luther H. Hodges, educational director, have been in progress for several weeks and the interest and attendance give evidence to much earnestness and enthusiasm on the part of pupils and teachers.

These classes are conducted under the direction of the State Vocational Department and this year several new classes have been added to the regular ones taught heretofore. In all there are about twenty classes in the three communities, with an enrollment of about two hundred.

The subjects being taught are carding and spinning, loom fixing, mill arithmetic, wool manufacturing, chemistry and dyeing, silk manufacturing, related subjects, designing and coloring, typewriting and business English, auto mechanics and business organization.

The teachers are J. O. Newton, W. J. Squires, L. A. Hamrick and G. W. Chaney, at Draper; W. J. Slayton, W. R. Sherwood, W. J. Hankins, J. F. Byrd, E. D. Hoehl and H. M. Bowling, at Spray; H. P. Mansfield, J. O. Thomas, Harry Davis, H. Z. Smith, Mrs. W. R. Sherwood and Miss Annie Baughn, at Leaksville.

Henry T. Whitin Dies of Pneumonia

Henry Thomas Whitin, president of the Paul Whitin Mfg. Co., of Rockdale, R. I., nephew of J. G. Whitin, owner of Whitin Machine Works, of Martinsville, Mass., and himself a pioneer in the New England cotton and silk goods industry, died Nov. 10 of pneumonia, at his home in Rockdale, R. I., aged 76 years. He was buried in Whtinsville (Mass.) Cemetery. Mr. Whitin was born Dec. 15, 1854, in North Uxbridge, Mass. He was the son of Charles E. and Adeline (Swift) Whitin. He followed his father's bent, entering the cotton industry after graduation from Highland Military Academy, Worcester, in 1872. He became an apprentice in the Whitin Machine Works, later entering the cotton mills of the Paul Whitin Mfg. Co., of which his father was president and manager. He was elected treasurer in 1906, his brother, G. Marston Whitin, being president.

Mr. Whitin was one of the organizers and on the first directorate of the National Association of Cotton Manufacturers and interested in the Home Market Club.

Oakbrook Makes First Installation of 60 Gauge Full-Fashioned Machines

Oakbrook Hosiery Mills, Reading, Pa., has purchased several 60-gauge full-fashioned machines, the highest gauge equipment in commercial use.

The machines are expected to arrive by Jan. 1. They are made by Karl Lieberknecht, Oberlungwitz, Saxony, who is represented in this country by Louis Hirsch, Inc. This is understood to be the first installation of these finest gauge machines in this country, the highest gauge equipment now in operation here being 57 gauge.

Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Nov. 10, based upon data compiled by the Department of Agriculture, follow:

	Week Ended Nov. 10	Total to Date 1931	Total to Date 1930
Domestic	439,000	244,016,000	237,413,000
Foreign	276,000	35,959,000	52,194,000
Total	715,000	279,975,000	289,607,000
IMPORTS AT PRINCIPAL PORTS			
Boston	276,000	35,959,000	52,194,000
Philadelphia	713,000	46,325,000	39,938,000
New York	709,000	47,067,000	38,572,000
Total	1,698,000	129,351,000	130,704,000

▸ A.A.T.C.C. Announces Program for Annual Meeting

A tentative program of the annual meeting of the American Association of Textile Chemists and Colorists to be held at the Hotel Statler, Boston, Dec. 4 and 5, is as follows:

FRIDAY, DEC. 4

1:30 p.m. 76th council meeting.
2:30 p.m. 69th research committee meeting; sight-seeing trips during the afternoon.
6:30 p.m. Buffet supper.
7:30 p.m. Informal technical session, open forum, and entertainment; tests for color blindness, Dr. E. M. Smith, Arlington Mills; a questionnaire on some practical problems of wool dyeing, prepared by John G. Masson, of the Rosemont Mill, and answered by Dr. E. W. Pierce, of the Ciba Co.; moving pictures of expedition to Venezuela; Carlton S. Francis, Jr., Celanese Corp. of America.

SATURDAY, DEC. 5

10:00 a.m. Use of hydrogen peroxide and sodium perborate as oxidizing agents for vat and sulphur colors, Peter De Leeuw, Roessler & Hasslacher Chemical Co.
10:30 a.m. The mechanism of the dyeing process, Dr. Robert E. Rose, E. I. du Pont de Nemours & Co., Inc.
11:30 a.m. Cotton fiber quality: Its measurement in relation to standardization and utilization, Miss Dorothy Nickerson, Bureau of Agricultural Economics, U. S. Department of Agriculture.
11:30 a.m. Some general considerations on the application of electrometric measurements, Dr. W. N. Greer, Leeds & Northrup Co.
12:00 Noon. Business meeting—reports of officers, reports of committees, election of officers for 1932, any other business.
2:00 p.m. Basic mordants and lakes, Prof. Wilder D. Bancroft, Cornell University.
2:45 p.m. The microscope and fundamental textile research, Prof. E. R. Schwarz, Massachusetts Institute of Technology.
3:15 p.m. The iso-electric point of wool, Dr. Milton Harris, Research Associate of A.A.T.C.C.
3:45 p.m. A study of stress-strain curve of rayon, Dr. Henry Green, Tubize Chatillon Corp.
4:15 p.m. Suggestions for standardizing sulphonated oil analysis, Prof. A. H. Grimshaw, North Carolina State College.
4:45 p.m. Two new scouring agents, Dr. H. Meyer, General Dyestuffs Corp..
6:30 p.m. Banquet—Toastmaster, H. D. Grimes, chairman, Northern New England Section; speakers: Hon. James M. Curley, Mayor of Boston, Bill Cunningham, sports editor of Boston *Post*, and others of national prominence.

▸ Spun Rayon Featured For Sportswear

A rough but soft, lacy fabric with the appearance of being a woven fabric, and known as Bou Ponge, is being used just now by creators of smart Palm Beach sportswear, as well as by designers of early spring sports apparel in general. It is a Schiffli machine-made fabric made of du Pont spun rayon with a Durene foundation, and manufactured by Jerry and Herbert Lehmann, Inc.

This new material is constructed on a firm base and in a 40 in. width, which lends itself to the bias cutting as well as to the straighter lines of the newer tailoring.

▸ Cotton Twine Bids for P. O. Rejected

The Postmaster General on Nov. 7 rejected all bids covering the Department's requirements of twine for the first six months of 1932. At the same time he announced that the new bids need not be confined to cotton twine.

This probably means that the Department will continue to use jute twine. There was a disposition on the part of the Department to favor the use of cotton twine, since it was made from a material produced domestically, but there is a feeling at the Department that a lower bid than 10.45c. could have been submitted. Jute twine is said to be available at 8c.

▸ Less Wool Used in September than August

The Department of Commerce announces consumption of wool in the United States during September, 1931, reduced to a grease equivalent, as 47,548,225 lb. compared with 51,139,895 lb. for August, 1931; and 38,082,737 lb. for September, 1930.

The monthly consumption of wool (pounds) in grease equivalent for manufacturers reporting for 1931 was as follows: January, 33,855,643; February, 38,420,409; March, 40,373,044; April, 47,709,971; May, 44,965,649; June, 45,805,477; July, 53,886,300; and for August, 51,139,895.

▸ To Install Sanforizing Machine in Canada

Announcement is made by Cluett, Peabody & Co. of Canada, Limited, that early in 1932 the first Sanforizing machine will be in operation in Canada. A machine has been ordered from Sir James Farmer Norton & Co. of Manchester, England, and will be erected under supervision of Cluett, Peabody & Co. engineers.

▸ No Increase in Compensation Rate in Georgia

T. M. Forbes, secretary, The Cotton Manufacturers Association of Georgia, Atlanta, Ga., has been advised by the National Council of Compensation Insurance that there will be no increase in the textile classifications in Georgia during 1932. The original plan was to increase the compensation insurance rate on textile classifications 10.8%.

▸ Pacific Mills Fashion Show

A wide range of new fabrics will be shown by mannequins, displaying 80 models at the spring fashion show to be held by Pacific Mills, at their New York showrooms, 24 Thomas St., next Tuesday afternoon at 2:30 o'clock.

Business News

Budd Now Producing Furness Rayon Machines

The Edward G. Budd Mfg. Co., of Philadelphia, confirms reports that it has been granted exclusive rights to manufacture machines to produce rayon yarns under the patents of the Furness Corp., of Gloucester, N. J. These new machines reduce the time required to manufacture cuprammonium process rayon yarns by making possible continuous production on a single machine. The Budd plants are already in production on the first order for rayon machines, which are to provide a substantial increase in production at the Furness company's plant in Gloucester. Subsequently the Budd Co. will be prepared to manufacture this machinery for other rayon manufacturers who may be licensed by Furness.

Columbia Alkali Corp. Modernizes Trade Terms

In an effort to clarify the terms used in expressing the strength of caustic soda and soda ash, Columbia Alkali Corp. announces that Columbia brand alkalis will be designated as 98-100% caustic soda, and 99-100% soda ash, respectively. Caustic soda with an actual strength of 98.06% has an Na_2O equivalent of 76%, and in the past has been designed as 76%, 77%, or 78.45% caustic. Soda ash with an actual strength of 99.16% has an Na_2O content of 58% and has been designated as 58%, 58.76%, and 59.87% soda ash. While the terms 76% caustic soda and 58% soda ash have been most commonly employed in this country, the divergence which exists in the methods of expressing the strength of these alkalis not only leads to confusion in commercial transactions, but fails to convey an impression of the actual caustic soda or soda ash content. For this reason Columbia Alkali Corp. was prompted to modernize the trade terms which distinguish the Columbia brand alkalis.

Pennsylvania P. & C. Co. Forms Connection with Byer

Pennsylvania Pump & Compressor Co., Easton, Pa., has formed a connection with Byer Engineering Associates, of the same city, with branch offices in New York and Philadelphia. The Byer Engineering Associates specialize in direct contact condensing and cooling apparatus, barometric and low level jet condensers, reciprocating and steam jet vacuum pumps, gas washing apparatus and allied centrifugal pumps.

Second Lincoln Arc Welding Prize Competition Has Many Entries

The second Lincoln arc-welding prize competition which will award $17,500 for the best papers on redesign for arc-welded construction closed Oct. 1, with four times as many papers entered as in the former contest sponsored by the Lincoln Electric Company of Cleveland, Ohio.

Reading and judging of the papers by a jury of award headed by Dr. E. E. Dreese, Ohio State University, was begun Nov. 1.

QUOTATIONS

at close of business, Nov. 11, 1931
Prices cover average qualities unless otherwise stated

Cotton Goods

	Nov. 4	Nov. 4	Nov. 12 1930
PRINT CLOTHS			
27 -in., 64x60, 7.60	2 13/16c.	2 1/16c.	4 1/16c.
38½-in., 64x60, 5.35	3 1/16c.	3 1/16–3 3/16c.	5 1/16–5 3/16c.
39 -in., 68x72, 4.75	4 c.	4 –4 1/16c.	6 1/16–6 1/16c.
39 -in., 72x76, 4.25	4 1/16c.	4 1/16c.	7 1/16c.
39 -in., 80x80, 4.00	5–5 1/16c.	5 1/16–5 1/16c.	7 1/16–8 c.
BROWN SHEETING			
36-in., 56x60, 4.00	4 1/16c.	4 1/16c.	6 1/16c.
36-in., 48x48, 3.00	4 1/16c.	4 1/16c.	7 1/16c.
37-in., 48x48, 4.00	4c.	4c.	5 1/16–6 c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	4 1/16–5c.	4 1/16c.	6 1/16c
36 -in., 64x60, 5.75	4c.	4c.	5 1/16c.
MISCELLANEOUS			
Drills, 37-in., 3 yd..	5c.	5 c.	7 1/16c.
Denims, 2.20	9 1/16c.	9 1/16c.	12 1/16c.
Tickings, 8 oz.	13 c.	13 c.	16 c.
Standard prints	7 c.	7 c.	7 1/16c.
Eastern staple ginghams, 27-in.	7 1/16c.	7 1/16c.	8 c.

Cotton Waste

Peeler comber	5 3/16 – 6
Peeler stripe	5 1/16 – 5 3/16
Sak. comber	4 3/16 – 5 1/16
Choice willowed fly	2 3/16 – 3 1/16
Choice willowed picker	2 – 3
Sak strips	6 1/16 – 7 1/16
Linters (mill run)	1 1/16 – 2 1/16
White spooler (single)	4 1/16 – 4 1/16

Cotton Yarn

CARDED (Average Quality)
Double Carded 2c.—4c. higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.14	22s	$0.17 1/16
10s	– .14 1/16	24s	– .18 1/16
12s	– .15	26s	– .19 1/16
16s	– .15 1/16	30s	– .21
20s	–.16 1/16	40s ex. qual.	– .30

TWO-PLY SKEINS AND TUBES

8s-2	$0.14 1/16	26s-2	$0.19
10s-2	– .14 1/16	30s-2	.20 – .20 1/16
12s-2	– .15	36s-2	.25 1/16 – .26 1/16
14s-2	– .15 1/16	40s-2	– .28 1/16
16s-2	– .16	40s-hi.brk.	.30 – .31
20s-2	– .17	50s-2	– .36
24s-2	– .18 1/16	60s-2	– .39

SINGLE WARPS

10s	$0.14 1/16	24s	$0.18
12s	– .15	26s	– .19
14s	– .15	30s	– .21 1/16
16s	– .15 1/16	40s.ex.qual.	– .30
20s	– .16 1/16		

TWO-PLY WARPS

8s-2	$0.15	24s-2	$0.18 1/16
10s-2	– .15 1/16	26s-2	– .19 1/16
12s-2	–	30s-2	.20 1/16 – .21
14s-2	.16 – .16 1/16	40s-2 ordin.	– .28 1/16
16s-2	.16 1/16 – .17	50s-2	– .36
20s-2	.17 – .17 1/16	60s-2	– .39

8s-2 and 4-ply skeins and tubes; tinged, 13-13½; white, 14; waste, 12½

HOSIERY CONES (Frame Spun)

8s	$0.14	22s	$0.17 1/16
10s	14 – .14 1/16	24s	– .18
12s	14 1/16 – .15	26s	– .19 1/16
14s	15 – .15 1/16	30s tying	.20 – .20 1/16
16s	15 1/16 – .16	30s reg.	– .21 1/16
18s	16 – .16 1/16	30s ex.qual.	– .22 1/16
20s	– .17	40s	– .27 1/16

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.25 – .26	60s-2	$0.42 – .45
30s-2	.30 – .31	70s-2	.55 – .56
36s-2	.33 – .34	80s-2	.64 – .66
40s-2	.34 – .35	90s-2	.90 – .95
50s-2	.37 – .38	100s-2	1.03 –1.05

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.26	60s-2	$0.42
30s-2	– .31	70s-2	– .55
36s-2	– .34	80s-2	– .63
40s-2	– .35	90s-2	– .93
50s-2	– .38	100s-2	–1.03

SINGLES

12s	$0.20 1/16	30s	$0.28 – .29
14s	– .21	38s	.32 – .33
16s	– .21 1/16	40s	.33 – .34
18s	– .22	50s	– .37
20s	– .23	60s	.45 – .46
24s	.25 – .25 1/16	70s	.55 – .56
28s	.27 – .28	80s	.65 – .66

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.41 1/16 – .43 1/16	90s-2	$1.05–1.17
30s-2	.42 1/16 – .44 1/16	100s-2	1.34–1.49
36s-2	.44 – .46	120s-2	1.70–1.85
40s-2	.45 – .47	30s-2	– .51
45s-2	.46 1/16 – .48 1/16	40s-2	– .56
50s-2	.48 – .50	50s	.64 – .66
60s-2	.56 – .58	60s	– .71
70s-2	.68 – .70	70s	.82 – .84
80s-2	.80 – .82	80s	1.02–1.05

Cotton Prices and Statistics

COTTON STATISTICAL DATA

(Fluctuations of Futures)

	Closed Nov. 5	For Week High	For Week Low	Closed Nov. 11	Net Ch'ge
November	6.44	6.69	6.44	6.49	+.05
December	6.53	6.86	6.46	6.56	+.03
January	6.62	6.91	6.53	6.63	+.01
February	6.70	6.96	6.70	6.71	+.01
March	6.79	7.10	6.69	6.80	+.01
April	6.87	7.08	6.87	6.88	+.01
May	6.96	7.28	6.88	6.98	+.02
June	7.04	7.24	7.04	7.06	+.02
July	7.13	7.43	7.04	7.15	+.02
August	7.21	7.41	7.21	7.22	+.01
September	7.29	7.49	7.29	7.30	+.01
October	7.36	7.67	7.30	7.40	+.04

SPOT FLUCTUATIONS FOR WEEK

(Middling)

	New York	New Orleans	Liverpool
Thursday, Nov. 5	6.60	6.53	5.12
Friday, Nov. 6	6.75	6.68	5.03
Saturday, Nov. 7	6.70	6.60	5.00
Monday, Nov. 9	6.85	6.78	4.98
Tuesday, Nov. 10	6.70	6.66	5.01
Wednesday, Nov. 11	6.65	Holiday	4.98

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Nov. 10		Change
Nov. Sak	12.60	—1.15
Dec. uppers	9.65	—0.58

Nov.-Dec. Shipment c. i. f. Boston
(Tariff not included)

Fully good fair Sak	12.60
Fully good fair to good Uppers	10.10

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	17
Peruvian Pima No. 1	16½
Peruvian Moderate Rough	11
Peruvian Full Rough	17*
China Tientsin No. 1	9½
India Rough	7 to 9
India Smooth	6½ to 8

(By Bruns-Nordeman Co.)

MOVEMENT INTO SIGHT

	This Year	Last Year	Year Before Last
Week	706,000	671,000	657,000
Season	*6,261,000	7,246,000	7,690,000

*34,000 deducted.

WORLD VISIBLE SUPPLY

	Today	One Year Ago
Interior towns and ports of U.S.*	6,312,000	5,334,000
Afloat to and at ports of Europe	†1,272,000	1,620,000
Afloat to and at ports of Orient	626,000	332,000
Total	8,210,000	7,286,000
	Increase	Increase
Change during week	†381,000	335,000

*Includes afloat to New York.
†5,000 added Liverpool stock.

FORWARDING TO MILLS OF WORLD

	This Year Week	This Year Season	Last Year Week	Last Year Season
No.States U.S.	18,000	213,000	23,000	193,000
So.States U.S.	148,000	*1,315,000	164,000	1,315,000
Total U.S.	166,000	*1,528,000	187,000	1,508,000
Great Britain	27,000	†274,000	26,000	239,000
Continent	73,000	780,000	92,000	952,000
Orient	60,000	603,000	25,000	232,000
Canada and other America	4,000	46,000	6,000	66,000
Total foreign countries	164,000	*1,703,000	149,000	1,489,000
World total	330,000	*3,231,000	336,000	2,997,000

*39,000 deducted (34,000 deducted United States, 5,000 deducted Great Britain).

EXPORTS FROM UNITED STATES

Total	326,000	1,970,000	298,000	2,467,000

AVERAGE PRICE NOV.-DEC. SHIPMENT HARD WESTERN COTTON

F.o.b. New England

	Middling	St. Middling
1 1/32-in	8 1/16–9c.	9 1/16– 9 1/16c.
1 1/16-in	9 1/16–10c.	10 –10 1/16c.
1 3/16-in	10 1/16–11c.	11 1/16–11 1/16c.
1 1/4-in	14 –15 1/16c.	15 –16 1/16c.

Basis on New York, December, 6.63.

SPOT FLUCTUATIONS AND STOCKS

Markets	Nov. 4	Nov. 11	Sales	Stocks This Week	Stocks This Year
Galveston	6.30	Holiday	3,550	856,222	639,471
New Orleans	6.50	Holiday	23,963	708,413	655,418
Mobile	6.00	Holiday	1,303	228,420	142,471
Savannah	6.23	6.31	2,085	370,501	287,214
Norfolk	6.44	6.56	1,285	67,024	88,374
New York	6.55	6.65	5,300	229,136	229,856
Augusta	6.25	6.38	1,492	133,119	139,107
Memphis	5.70	5.80	114,045	436,592	366,905
St. Louis	6.35	Holiday			3,057
Houston	6.30	Holiday	52,632	1,556,488	1,460,471
Dallas	5.95	Holiday	91,533	47,166	40,404

DIFFERENCES ON AND OFF MIDDLING

WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	0.65†	1.00†	0.75†	0.75†	0.75†
S.G.M	.50†	.75†	.65†	.63†	.61†
G.M	.40†	.50†	.55†	.44†	.44†
S.M	.25†	.20†	.25†	.25†	.26†
S.L.M	.40*	.40*	.40*	.38*	.39*
L.M	.90*	.90*	.90*	.88*	.87*
S.G.O.**	1.40*	1.10*	1.40*	1.38*	1.28*
G.O	1.90*	1.20*	1.90*	1.88*	1.70

YELLOW TINGED

G.M	0.30*	0.25*	0.40*	0.50*	0.39*
S.M	.55*	.40*	.65*	.75*	.62*
M.**	.90*	.50*	.90*	.88*	.85*
S.L.M	1.40*	.90*	1.40*	1.38*	1.27*
L.M	1.90*	1.40*	1.90*	1.88*	1.73*

YELLOW STAINED

G.M	0.90*	0.60*	0.90*	0.90*	0.86*
S.M.**	1.15*	1.10*	1.15*	1.25*	1.18*
M.**	1.90*	1.35*	1.75*	1.90*	1.71*

BLUE STAINED

G.M.**	0.90*	0.35*	0.90*	0.90*	0.84*
S.M.**	1.40*	.85*	1.40*	1.40*	1.26*
M.**	1.90*	1.10*	1.90*	1.90*	1.70*

**Grades not deliverable on contract.
*Off Middling.

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne.	$0.24 –$0.25	¾ blood	$0.23 –0.24
Fine clthg.	.20 – .21	½ blood	.21 – .21½
¼ blood	.23 – .24		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months	$0.55 –0.58
California, Northern	.48 – .50

PULLED—EASTERN (CLEAN BASIS)

A.A.	$0.58 –$0.60	B-Super	$0.43 –0.45
A-Super	.48 – .50	C-Super	.38 – .40

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.58 –0.60
Staple ¾ bld	.53 – .55
Fine and fine medium	.53 – .55
½blood	.47 – .49
¼blood	.40 – .42

MOHAIR—DOMESTIC

Best carding	$0.23 –0.25
Best combing	.31 – .33

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 –0.21
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
70s	$0.45 –0.47
64s	.38 – .40
58s-60s	.33 – .35
(IN GREASE)	
Montevideo:	
58s-60s	$0.16 –0.17
56s	.15 – .16
50s	.14 – .15
Buenos Aires:	
4s, 40-44s	$0.11 –0.12
5s, 36-40s	.11 – .12

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.23 –0.25
China: Combing No. 1	.13 – .14
China Filling Fleece	.12 – .14
Szechuen ass't	.12 – .14
Cordova	.14 – .15
Scotch black face	.15 – .17
East India: Kandahar	.17 – .19
Vican'r	.23 – .25
Joria	.23 – .24

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.75 –0.77½
2-24s 40s	– .80
2-26s 44s	.82½– .85
2-28s 46s	– .87½
2-30s 48s	.92½– .91
2-32s 50s	.97½–1.00
2-30s 64s fancy mixes	1.35 –1.37½
(Single yarns 5c. less than above)	
2-36s 58s	$1.10 –1.12½
2-40s, 60s	–1.20
2-40s, 64s	1.27½–1.32½
2-50s, 66s	1.40 –1.45
2-60s, 70s	1.82½–1.85

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.75 –0.77½
2-20s, 48s in oil	– .80
2-20s, 50s in oil	.77½– .82½
2-20s, 56s in oil	.92½– .95
2-20s, 66s in oil	–1.05
2-20s, 64s in oil	1.12½–1.15
1-18s, 48s dyed	.90 – .92½
1-18s, 50s dyed	.92½– .95
(Oil yarns 17½c. less)	

FRENCH SYSTEM

1-20s, 58s	$1.00 –1.05
1-20s, 60s	1.05 –1.07½
1-18s, 64s, dyed	1.27½–1.30
1-26s, 64s	1.07½–1.10
1-30s, 66s, Warp	1.20 –1.22½
1-30s, 64s, Warp	1.20 –1.22½
2-30s, 64s, Fancy mixes	1.40 –1.42½
2-40s, 64s, Zephyrs	1.32½–1.35
1-50s, 66s	1.47½–1.50
2-50s, 66s	1.50 –1.55
1-60s, 70s	1.82½–1.85
2-60s, 70s	1.90 –1.95

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$0.95 –1.00
1-40s, 50-50-60s on cops	1.10 –1.15
1-40s, 50-50-64s on cops	1.12½–1.15
1-40s, 50-50-64s Australian cops	1.20 –1.25

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed Nov. 4	For Week High	For Week Low	Closed Nov. 10	Net Ch'ge
November	68.50	70.00	68.50	70.00	+1.50
December	68.10	70.00	68.10	70.00	+1.90
January	68.00	70.00	68.00	70.00	+2.00
February	68.00	70.00	67.50	70.00	+2.00
March	67.50	70.00	67.50	69.50	+2.00
April	67.50	70.00	67.50	69.50	+2.00
May	67.50	69.50	67.00	69.50	+2.00
June	67.50	69.50	67.50	69.50	+2.00
July	67.50	69.50	67.00	69.50	+2.00
August	67.50	69.00	67.00	69.00	+1.50
September	67.50	69.00	67.00	69.00	+1.50
October	.....	68.00	67.00	.....	.....

Tops and Noils

TOPS—BOSTON

Fine (64-66⅔s)	$0.80 –0.83
Half-blood (60-62s)	73 – .76
High ¾ blood (58s)	.67 – .69
Aver. ¾ blood (56s)	.61 – .64
Low ¾ blood	.58 – .60
High ½ blood (50s)	.53 – .55
46s S. A. and N. Z.	.61 – .63
44s S. A. and N. Z.	.56 – .58
40s S. A. and N. Z.	.50 – .52

TOPS—BRADFORD, ENG. (NOV. 6)

Fine (70s)	28 d	¾ bld. (56s)	18½d
Fine (64s)	26 d	½ bld. (50s)	14½d
¾ bld. (60s)	24½d	Cross-bred (46s)	11½d

NOILS—BOSTON

Fine	$0.30–$0.33	High ½ bld.	$0.27 –$0.29
Half-bld	.31 – .32	Low noils	.23 – .25
Aver. ¾ bld.	.30 – .31	Medium colored	.22 – .24
Fine colored	.30 – .31		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.57 – .60
Lap, fine colored	.43 – .48
Hard ends, fine white	.43 – .45
Hard ends, ¾ blood white	.31 – .33
Hard ends, fine colored	.18 – .20
Hard ends, medium colored	.13 – .15
Card, fine white	.21 – .23
Burr, fine Carbonizing	.25 – .28

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, coarse light	$0.05 –0.05½
Merinos, fine dark	.03½– .04
Merinos, fine light	.10 – .11
Serges, blue	.05½– .06
Serges, black	.05½– .06
Serges, red	.08 – .09
Knit, white	.19 – .20
Knit, red	.10 – .11
Knit, light hoods	.10½– .11½
Worsted, light	.05 – .05½
Worsted, blue	.05½– .06
Worsted, black	.06 – .06½

Silk Yarns

THROWN SILK (60 day basis)

	Nominal
Japan organzine, 2 thd. spec. gd. XX sk. 85%	$3.70
Japan organzine 2 thd. grand sk. 83%	3.50
Japan organzine, 2 thd. sp. crack. sk. 81%	3.40
Japan crepe, 3 thd. gd. XX bob. 83%	3.50
Japan crepe, 3 thd. sp. crack. bob. 81%	3.40
Japan grenadine, 4 thd. sp. grand singles, 87%	4.70
Japan grenadine, 3 thd. 90%	5.50
Canton crepe, 3 and 4 thd. 14/16 on bobbins	2.65
Hosiery tram, 3 thd. Japan 90%	4.35
Hosiery tram, 5 thd. Japan, 85%	3.40
Hosiery tram, crack XX 78%	3.10

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.45
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods)

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$3.00	$2.45	$2.45
Special Grand, 85%	2.75	2.40	2.40
Grand XX, 83%	2.60	2.35	2.35
Special Crack, 81%	2.50	2.30	2.30
Crack XX, 78%	2.40	2.25	2.20
Extra Extra, 73%	2.35	....	....
Best Extra, 68%	2.30	....	....
Canton filature, new style, 14/16			$1.95
Canton filature, new style, 20/22			1.85
Tussah filature, 8 cocoon			1.10

NATIONAL RAW SILK EXCHANGE

	Close Nov. 4	For the Week High	For the Week Low	Close Nov. 10	Net Ch'ge
November	2.26	2.32	2.24	2.29	+.03
December	2.26	2.34	2.24	2.29	+.03
January	2.25	2.34	2.25	2.28	+.03
February	2.26	2.34	2.24	2.28	+.02
March	2.27	2.35	2.25	2.29	+.02
April	2.26	2.34	2.25	2.29	+.03
May	2.26	2.35	2.25	2.28	+.02
June	2.26	2.34	2.24	2.28	+.02

Total number of bales, 11,050. Total approximate value, $3,453,677.50. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
30	8	$2.25	....
50	12-18	1.35	$1.25
75	18-30	1.20	1.10
100	18-40	1.00	.90
125	36-50	.90	.80
150	30	.72	.70
150	24-44	.75	.72
150	60	.85	.82
150	75-90	.85	.82
170	24-27	.75	.72
170	60	.85	.82
200	30-42	.75	.72
300	42-62	.63	.60
450	42-72	.63	.60
600	72-96	.63	.60
900	100-144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	75	60	$1.30
25	24	2.85	80	60	1.30
30	24	2.60	100	75	1.10
40	30	1.70	120	90	1.00
52	30	1.50	150	112	.90
65	45	1.40	180	135	.87

ACETATE PROCESS

Denier	Price	Denier	Price
45	$1.60	125	$1.10
60	1.50	150	1.00
75	1.40	300	1.00
100	1.30		

Rayon Waste

Open bleached waste	$0.13–$0.14
Open unbleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06– .07
Colored thread waste	.03– .04
Colored clips	.03– .04

CONVERTED RAYON WASTE

Bleached tops	$0.30–0.32½
Unbleached tops	.27– .28
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10– .11

Silk Waste

Kibizzo Kakai Grand XX	$0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49
Pierced Cocoons	.50

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